

UNIVERSITY OF ZAGREB
FACULTY OF CIVIL ENGINEERING



12 Computer Rooms	13 Expert Associates	8 Departments	39 Assistants and Young PhD Researchers	2116 Bachelors in Civil Engineering
20 Software	5 Lecturers and Senior Lecturers	5 Laboratories	8 Postdoctoral Researchers	7708 Civil Engineering Graduates
8800 Library Book Titles	5 Laboratory Technicians	21 Chairs	35 Assistant Professors	1854 Masters in Civil Engineering
28 Library Journal Titles	Centre for Research and Development of Safe and Sustainable Built Environment	36 Administrators	13 Associate Professors	301 Doctors of Science (PhD)
<p>PUBLISHED AND EDITED BY University of Zagreb Faculty of Civil Engineering</p> <p>LAYOUT, TYPESETTING AND DESIGN Modulor</p> <p>PROOFREADING Zoran Vulelija</p>			24 Full Professors	560 Masters of Science
<p>PRINTED IN ZAGREB, CROATIA BY Tiskara Zelina d.d., 2021</p> <p>COPIES 600</p> <p>ISBN ISBN 978-953-8168-46-8</p> <p>DOI https://doi.org/10.5592/RP/GF.2021.01</p>			5 Professors Emeriti	46 Specialists in Civil Engineering
<p>A CIP catalogue record for this book is available in the Online Catalogue of the National and University Library in Zagreb as 001092629.</p> <p>Reproduction or transmission of content of this booklet is allowed only with written permission of the Publisher.</p>			<div> <div> 102 Years 1919-2021 </div> <div>   </div> </div>	

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About Us

In brief

The **Faculty of Civil Engineering of the University of Zagreb** is the oldest civil engineering faculty in Croatia. It offers university education at an **undergraduate** (>750), **graduate** (>400) and **postgraduate** (>50 students) levels in all branches of civil engineering. It continually develops and advances higher education, scientific research activities and overall education, and actively participates in the development of the profession and in implementation of new technologies. It has a valid ASIIN international accreditation and, furthermore, it has an extensive experience in the work on research, educational and networking projects such are HORIZON 2020, EUKI 2020, FP7, FP6, TEMPUS, COST, EUREKA, LIFE, LLP, CIP ECO INNOVATION, CIP-IEE-INTELLIGENT ENERGY EUROPE, ERASMUS + and ERASMUS MUNDUS.



University of Zagreb, Faculty of Civil Engineering



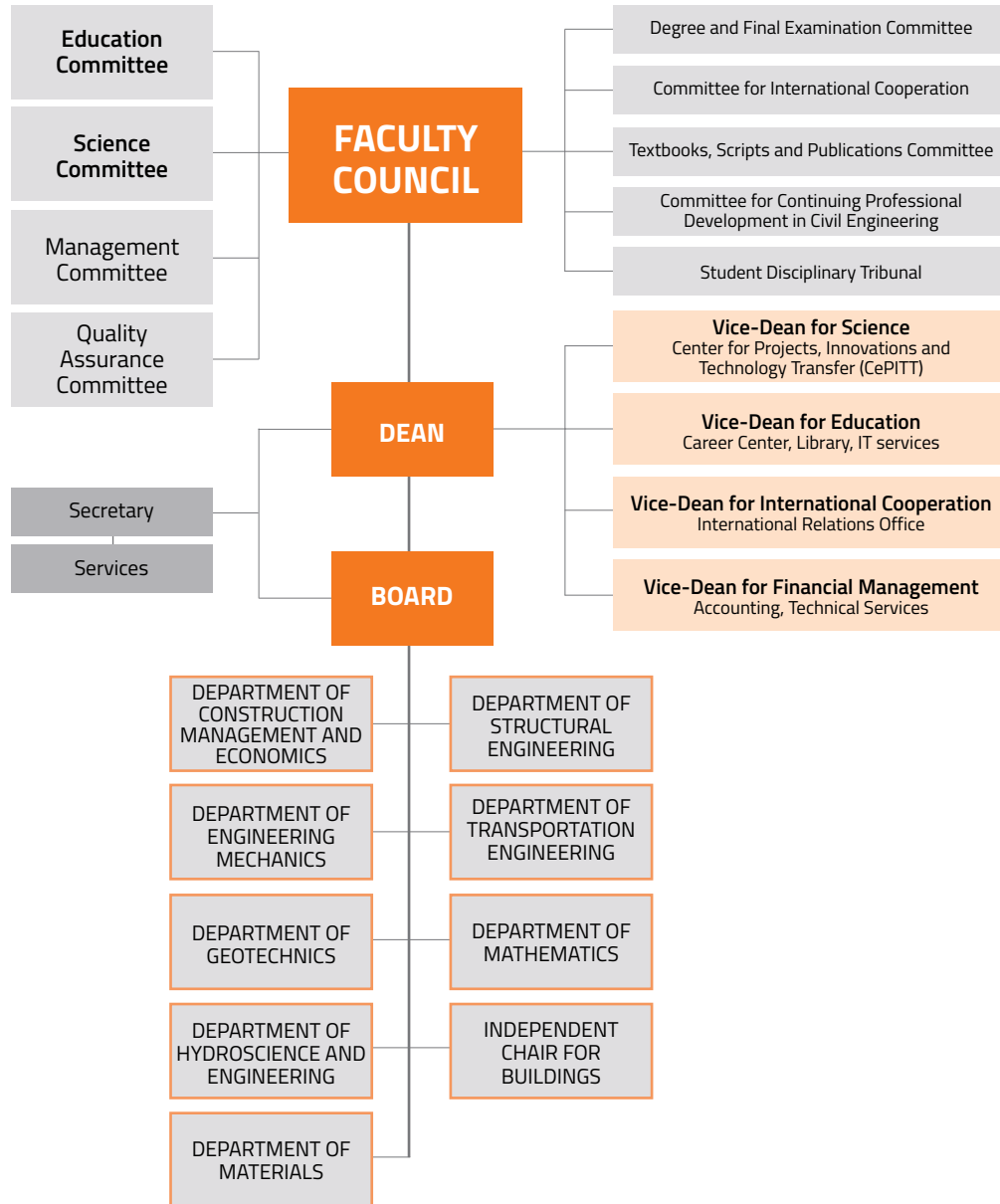
Large auditorium accommodates more than 300 people

Our Vision

- to retain and strengthen the leading position as a civil engineering faculty and scientific-research centre in the country, covering all branches and disciplines of civil engineering
- to achieve international recognition by developing a culture of exemplary quality higher education and research work by implementing best European and worldwide practices, promoting the mobility of students and researchers, and by becoming a regional centre of excellence in its varied disciplines, as well as a “cooperation bridge” for countries of the European Union and the region
- to retain and strengthen cooperation with business sector in high-expertise areas and on development projects, specialised life-long higher education programmes, and in the development of an alumni network for mutually beneficial support and progress



- Library offers more than 8800 titles



— Organizational Structure of the Faculty of Civil Engineering

**IN THE
FOCUS**

Centre for Research and Development of Safe
and Sustainable Built Environment

Activities after earthquake in the City of Zagreb

Student Internship at the Faculty of Civil Engineering
(GRASP)

Centre for Research and Development of Safe and Sustainable Built Environment

Operational program: Competitiveness and cohesion 2014.-2020.

Duration: 29.06.2020.-29.12.2021.

Contract value: HRK 4,799,394.44

Source of funding: European Regional Development Fund

Short description of the project: The purpose of the project is to develop project documentation required for implementation of the project "Centre for Research and Development of Safe and Sustainable Built Environment", which includes investment in IRI infrastructure and organizational reform of the Faculty of Civil Engineering in Zagreb, so that it can become an internationally competitive scientific institution that creates new scientific, social, and economic value.

Expected project results

- Contribution to smart development and enhanced competitiveness of the Republic of Croatia by investing in a research system open to innovation, which meets the needs of the economy;
- Positive impact on the strengthening of research capacities of the Faculty of Civil Engineering in Zagreb aimed at implementation of top scientific research;
- Contribution to smart and sustainable development through concrete examples of balance to be established between environmental, social and economic goals (positive impact on green public procurement, climate challenges, principles of green growth, and resource efficiency);
- After establishment of the Centre, research will be conducted in all construction development segments through work of individual research units related to the organization of the faculty and its nine departments and five laboratories.

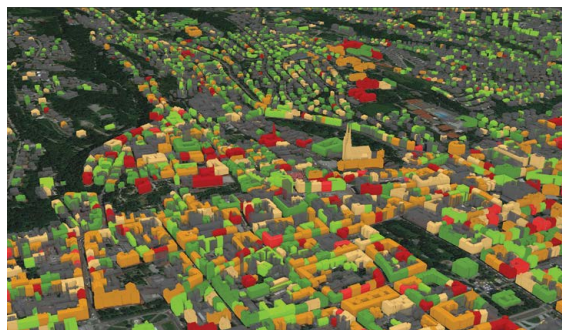


Activities after earthquake in the City of Zagreb

Experts from the Faculty of Civil Engineering have for many years been a part of many regional and international scientific projects, conferences, and workshops focusing on earthquake-related issues, and authors of many articles published in regional and international academic and scientific journals. After the devastating earthquakes that hit Zagreb on 22 March 2020 and Sisacko-moslavacka County on 28 and 29 December 2020, the Faculty staff took part in all activities aimed at reducing consequences of the earthquake, and at rebuilding and recovering affected area and the society as a whole.

Major activities undertaken by the Faculty of Civil Engineering after the earthquake were:

- Organising a system for inspecting damaged buildings, and forming a crisis headquarters for the management of engineers and civil services involved in relief activities
- Developing a form for the assessment of damage and building usability, developing a digital platform for managing data on damaged structures, organising on-site education and training of engineers
- Developing and defining a structural-damage database for 25000 different buildings that is directly accessible to all interested parties (various city offices, government services and offices)
- Developing a system called GISCloud for assessing construction damage using unmanned drones.
- Designing a platform "Croatian centre for seismologic engineering" (www.HCPI.hr) where all information and instructions for citizens, city and state officials, services, and engineers, is provided
- Publishing an instruction manual "Urgent program of seismic reconstruction" (UPPO) in collaboration with the Croatian chamber of Civil Engineers
- Organising a workgroup consisting of experts from all fields regarding the main points of the reconstruction plan; resulting with the basis for development of technical laws and regulations.
- Participating in damage assessment and estimation of reconstruction expenses for damaged buildings with World Bank in cost estimation for the Croatian Government, "Rapid Damage and Needs Assessment - RDNA"



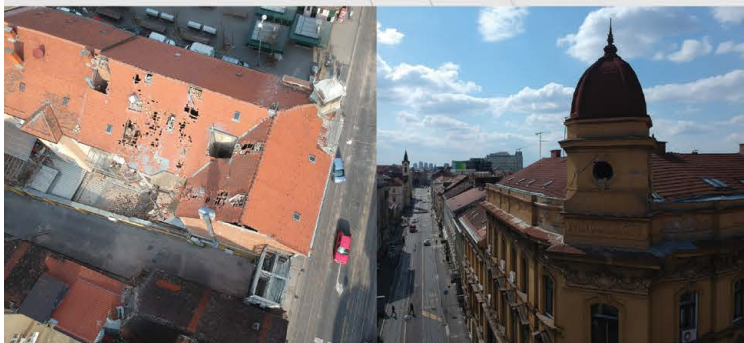
Indications of the usability category of buildings

Demonstration of damage to residential and residential-commercial buildings according to usability labels



UNIVERSITY OF ZAGREB
FACULTY OF CIVIL ENGINEERING

101
YEARS
1919.-2020.



International Volunteer Day, mandated by the United Nations General Assembly in 1985, is held each year on **5 December**.

Zagreb and its surroundings were hit by a devastating earthquake on March 22, 2020. While Zagreb was still shaking, the exceptional engagement of our volunteers began.

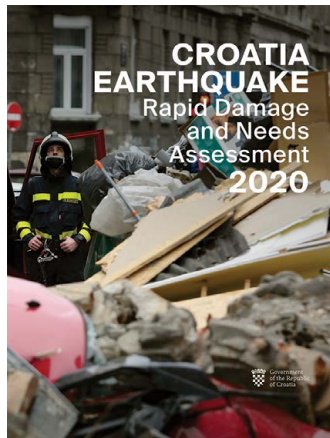
Faculty of Civil Engineers congratulated volunteers their International Day and thanked them for selfless help



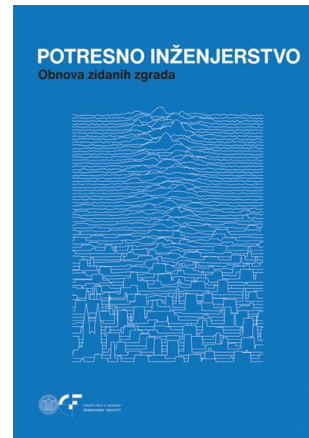
THANK YOU VOLUNTEERS
for inspecting earthquake
damaged buildings!



Urgent program of seismic reconstruction



Rapid Damage and Needs Assessment - RDNA



Post-earthquake Building Renovation Manual

- Participating in the workgroup tasked with drafting the Reconstruction Law
- Organising a variety of expert meetings and consultations to help all participants included in post-earthquake renewal and reconstruction efforts; organising webinars and online consultations on every 22nd day of the month.

Knowledge and experience of experts from the Faculty of Civil Engineering

- They are the authors of the Earthquake Risk Assessment for the City of Zagreb and Republic of Croatia
- Actively conducting, a project entitled "Study on Seismic Risk Mitigation in the City of Zagreb"
- Research grant holders for the research project entitled "New vulnerability models of typical buildings in urban areas: applications in seismic risk assessment and target retrofitting methodology - BESAFE", the aim of which is to improve methods for comprehensive definition of behaviour of structures under seismic action, and to develop a methodology for targeted retrofitting of critical structures.
- Research grant holders for the research project entitled "Assessment and Reconstruction of Existing Structures - ARES", focused on lowering the earthquake risk for concrete and wooden structures,
- They are a part of the international project "Matilda" (MultinATional moduLe on Damage Assessment and CounTermeasures - Civil Protection Preparatory Action on an EU Rapid Response Capability)
- They are implementing new knowledge into Croatian system via a number of civil protection exercises (Istra 2017., Ston 2016., ZG POTRES 2018., Cascade'19).
- They are included in MUSAR (Medium Urban Search and Rescue) teams in collaboration with the Civil Protection Directorate of the Ministry of Interior
- They are participating in the assessment of damaged structures in Albania after a devastating December 2019 earthquake, as a part of the Croatia Task Team.



1st Croatian Conference on Earthquake Engineering 1CroCEE

22-24 March 2021, Zagreb, Croatia

Conference organizer



UNIVERSITY OF ZAGREB
FACULTY OF CIVIL ENGINEERING

Supporting organizations



The European
Association for
Earthquake Engineering



The International
Association for
Earthquake Engineering

Croatian
Association for
Earthquake Engineering

Under High Auspice of



President of the
Republic of Croatia
Zoran Milanović

International
Conference on the
first anniversary
of the Zagreb
earthquake



Student Internship at the Faculty of Civil Engineering (GRASP)

Jumpstart
your career



The GRASP Project (Student Internship at the Faculty of Civil Engineering) is financed by the European Social Fund under the “Efficient Human Resources” OP. During a three-year period (March 2020 to March 2023), the project will be assisting students in gaining practical knowledge through Student Internship. The beneficiaries of the project are the students, employers, as well as the teaching, and non-teaching staff of the Faculty. Through an array of workshops, the beneficiaries will be able to further develop their professional, communication, soft, and digital skills.

The main goals of the project are as follows:

- to elevate the study programme by developing a student internship model,
- to provide students with practical knowledge,
- to facilitate students’ transition to the labour market,
- to help teaching and non-teaching staff build up and develop their mentoring and training skills.

Furthermore, the following annual events assist in disseminating results and sharing experience gained by participants:

- GRAD-ify Job Fair – an event following the traditional Career Day, which serves to provide networking opportunities between students and employers,
- iGRA Competition – a student competition in developing practical projects, in cooperation with civil society.

The education of students, teachers and mentors is carried out via the following activities:

- workplace safety training,
- soft skills workshops,
- contemporary digital skills workshops,
- dissemination of experience at expert and scientific conferences,
- implementation of student internships into the student programme and curriculum,
- training and mentoring workshops.

All project activities are coordinated by the **Career Centre** via the central platform:
www.grad.unizg.hr/grasp.



**Learning
with a smile**

GRASP

Student internship at Faculty of Civil Engineering

www.grad.unizg.hr/grasp

EDUCATION

Bachelor Programme - Undergraduate

Master Programme - Graduate

Postgraduate Doctoral Study Programme

Postgraduate Specialist Study Programme

Academic Mobility & Exchanges



Graduation ceremony for Master Programme students in Faculty Auditorium

Bachelor Programme - Undergraduate

ENROLMENT, PROGRAMME AND ACHIEVEMENTS

- Requirement: all secondary school programmes lasting 4 years, secondary school exit exam
- Duration and credits: full time study, 3 years, 6 semesters, 180 ECTS credits
- Academic title: Bachelor (M: baccalaureus / F: baccalaurea) of Civil Engineering
- Diploma with academic title + supplement certifying the exams, grades and ECTS

LEARNING OUTCOMES

ACQUIRING KNOWLEDGE AND UNDERSTANDING

- ability to recognize and describe engineering issues, interaction between design, construction, marketing, clients' demands and demolition of structures
- understanding impact of civil engineering on the society and environment

APPLYING KNOWLEDGE AND UNDERSTANDING

- application of varied knowledge and expertise acquired in mathematics, science and technology
- ability to prepare and carry out experiments, and analyse and interpret their results
- application of current computer tools to perform calculations and simulations
- basic structure design capability and dimensioning of medium-sized building structures

MAKING INFORMED JUDGEMENTS AND CHOICES

- critical assessment of arguments, hypotheses, abstract concepts and data for making competent decisions, and finding creative solutions to engineering issues

COMMUNICATING KNOWLEDGE AND UNDERSTANDING, TEAM WORK

- participation in the planning, design, realisation, supervision and maintenance of large-scale construction works and supervision of small-scale construction works
- exchange of information and ideas with experts and non-experts, adjustment to work environment
- application of current computer tools to produce documents, presentations and internet pages

CAPACITIES TO CONTINUE LEARNING, ETHICS

- application of acquired knowledge and skills in further professional and academic education
- ability to adapt to changes in technology and work methods in the process of lifelong learning
- ethical attitude to finding solutions to engineering issues

BACHELOR PROGRAMME UNDERGRADUATE



Library



Students at exam



Laboratory course for students



Student interdisciplinary project MEMBRAN

Schematic view of Bachelor Programme

Master Programme - Graduate

ENROLMENT, PROGRAMME AND ACHIEVEMENTS

- Requirement: completed undergraduate university studies in civil engineering, with additional conditions completed undergraduate university study in related technical sciences or a completed professional study in civil engineering
- Duration and credits: full time study, 2 years, 4 semesters, 120 ECTS credits
- Academic title: Master of Civil Engineering (abbrev. mag. ing. aedif.)
- Diploma with academic title + supplement certifying the exams, grades and ECTS

LEARNING OUTCOMES

ACQUIRING KNOWLEDGE AND UNDERSTANDING

- comprehensively understand phenomena and problems in their area of specialisation
- demonstrate a high level of professional knowledge and aptitude in civil engineering

APPLYING KNOWLEDGE AND UNDERSTANDING

- apply knowledge and skills in the planning, design, construction, supervision and maintenance of complex building structures, and in interventions especially with regard to the issues of stability, safety, occupancy, environmental protection, and costs
- apply knowledge and skills obtained during studies in recognizing, formulating and analysing problems and in finding one or more acceptable solutions in their field of specialisation
- adopt an analytical approach to work, based on extensive knowledge of science acquired during studies
- plan, supervise and realize professional, development and research projects

MAKING INFORMED JUDGEMENTS AND CHOICES

- interpret social aspects and social context of construction projects
- manage companies and research institutions and contribute to innovation work
- develop civil engineering profession taking into account development of other scientific disciplines

COMMUNICATING KNOWLEDGE AND UNDERSTANDING, TEAM WORK

- explain their ideas and projects to associates
- find solutions to technical and personal problems in working environment
- creatively apply knowledge obtained during studies in high-level decision making situations
- work in international settings, taking into account various cultural, linguistic, social and economic influences

CAPACITIES TO CONTINUE LEARNING, ETHICS

- continuously gain knowledge about innovations and make professional improvement efforts
- accept responsibility for decisions made and be ready to take part in interdisciplinary activities



– Schematic view of Master Programme - Students at field excursions



International
ASIIN
accreditation of
the Bachelor
degree
programme

A graduate of this programme may define him/herself "EUR-ACE® Bachelor/Master" as appropriate.



European
Accreditation
of Engineering
Programmes
EUR-ACE®

This is to certify that the engineering degree programme

Master of Science Civil Engineering

provided by
University of Zagreb

accredited by
ASIIN e.V.

on 28. September 2018

until 30. September 2024

satisfies the criteria for Master degree programmes specified in the
EUR-ACE® Framework Standards for the Accreditation of Engineering
Programmes, and therefore for the above period of accreditation
is designated as a

**EUROPEAN-ACCREDITED ENGINEERING
MASTER DEGREE PROGRAMME.**

c e r t i f i c a t e



For the European
Network for Accreditation
of Engineering Education
(ENAAEE)



For ASIIN

The President
Mr. Damien OWENS

Damien Owens

The Chairman of the
Accreditation Commission
Prof. Dr. Kathrin Lehmann

K. Lehmann

Brussels, October 14th 2019

Düsseldorf, October 14th 2019

International
ASIIN
accreditation of
the Master
degree
programme

A graduate of this programme may define him/herself "EUR-ACE® Bachelor/Master" as appropriate.

Postgraduate Doctoral Study Programme

PROGRAMME AND ACHIEVEMENTS

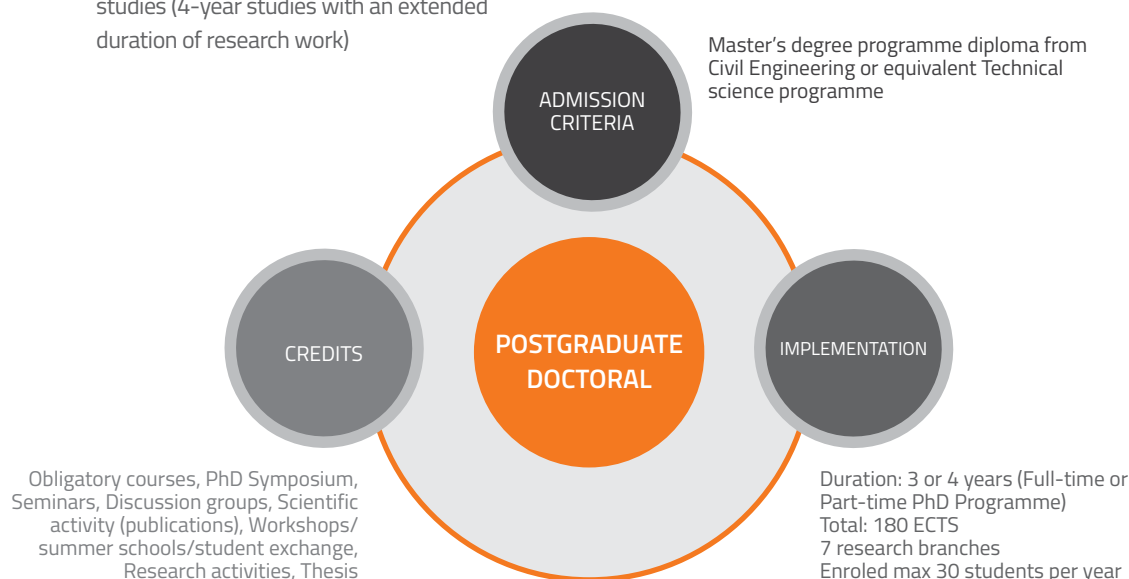
- Outcome: academic title of doctor of science in the field of technical sciences, area civil engineering
- several areas of research in the field of civil engineering and fundamental technical sciences
- 3 years (full time studies) or 4-year studies involving extended duration of research work (part time studies)

ELIGIBILITY FOR ENROLMENT

- completed graduate university studies, or master's degree in civil engineering or technical sciences that are related to civil engineering
- 60 ECTS credits gained in courses that belong to the field of civil engineering
- proficiency in written and spoken English language
- a minimum average grade of 3.5 (if the average grade is lower, additional recommendations from two lecturers + paper presented at a congress/conference or published in a journal)
- prospective mentor recommendation + general description or working title of a wider area of research to be covered by doctoral thesis

TUITION FEE

- HRK 60,000 (€ 8,000) for full time studies (studies lasting 3 years)
- HRK 80,000 (€ 10,500) for part time studies (4-year studies with an extended duration of research work)



— Schematic representation of PhD Programme

Postgraduate Specialist Study Programme

PROGRAMME AND ACHIEVEMENTS

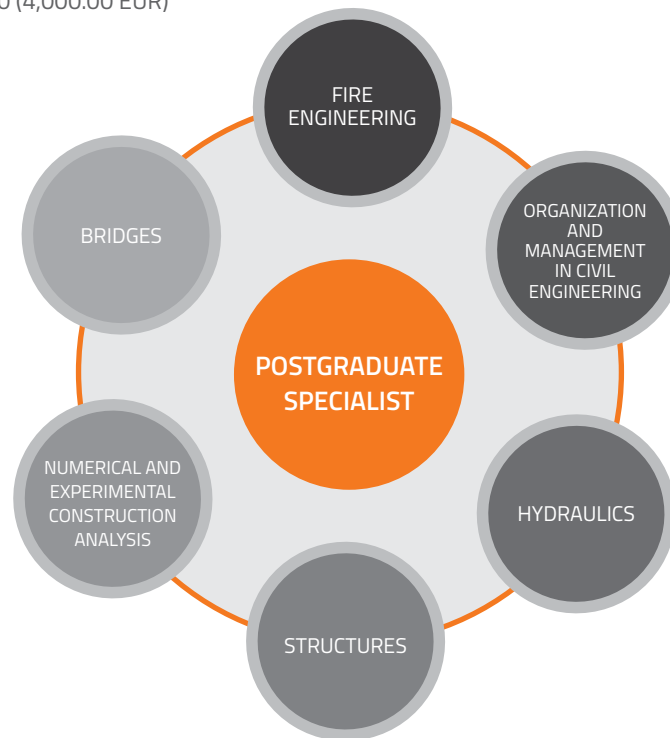
- Outcome: academic title of specialist in several fields: Numerical and experimental structural analysis; Bridges; Fire Engineering; Organization and Management in Civil Engineering; Hydraulics; Structures
- 1-year part time studies, 60 ECTS

ELIGIBILITY FOR ENROLMENT

- completed graduate university studies with 60 ECTS credits gained in courses that belong to the field of civil engineering
- for Fire Engineering and Organization and Management in Civil Engineering: completed graduate university studies with 60 ECTS credits gained in courses that belong to the field of technical sciences
- proficiency in written and spoken English language

TUITION FEE

- HRK 30,000.00 (4,000.00 EUR)



— Schematic representation of Postgraduate Specialist Programme


Academic Mobility & Exchanges

In the scope of this activity, the Faculty of Civil Engineering signs Memorandums of Understanding (MoUs) and Agreements with partner higher-education institutions or associations in order to achieve various forms of cooperation, such as work on common themes and projects, exchange of teachers and students, joint publications, exchange of information, and other activities aimed at enhancing academic cooperation.

ERASMUS +

- Student mobility for study purposes: 3-12 months
- Professional training of students: 2-12 months
- Teaching staff mobility: at least 8 hours of teaching, spread over 5 days in the case of teaching engagement
- Non-teaching staff mobility: 2 days up to 2 months

Inter-institutional agreements

Recep Tayyip Erdogan University (Turkey) 
 Università degli studi di Napoli Federico II (Italy)
 Istanbul University Eskisehir (Turkey)
 Istanbul University – Cerrahpasa (Turkey)
 Technische Universität Wien (Austria)
 Vysoké Učení Technické v Brně (Czech Republic)
 Hochschule RheinMain (Germany)
 Technische Universität Dortmund (Germany)
 Ss. Cyril and Methodius (Macedonia)
 Akademia Górniczo-Hutnicza (Poland)
 Universidade de Aveiro (Portugal)
 Technische Universität Graz (Austria)
 Universitat Politècnica de Catalunya (Spain)
 Hochschule Trier (Germany)
 Università degli Studi di Salerno (Italy)
 Universidade do Minho (Portugal)
 Universidad de Granada (Spain)
 L'université d'Orléans (France)
 Roma Tre University (Italy)
 Ostbayerische Technische Hochschule
 Regensburg (Germany)

Professional training of students

ALTEN Sverige AB (Sweden)
 Arcadis (Germany)
 BPR Dr. Schäpertöns Consult (Germany)
 Confederación Hidrográfica del Júcar (Spain)
 Ed. Züblin AG Berlin (Germany)
 f2k ingenieure (Germany)
 Hauraton (Germany)
 Tiring d.o.o. (Slovenia)
 Institut für Betonbau, TU Graz (Austria)
 Osnabrück University (Germany)
 Universidade de Aveiro (Portugal)
 Università di Bologna (Italy)
 Wasserverband Kinzig (Germany)
 GRADIS, BP MARIBOR d.o.o. (Slovenia)
 IMM Industriemontage GmbH (Germany)
 KEMO GmbH (Germany)
 Technische Universität Graz (Austria)
 Zavod za gradbeništvo Slovenije (Slovenia)

BILATERAL AGREEMENTS

Signed MoUs with academic institutions:

Cyprus University of Technology (Cyprus)

University College Cork (Ireland)

Fachhochschule Wiesbaden (Germany)

Faculty of Civil Eng., Mostar (B&H)

Faculty of Civil Eng., TU Košice (Slovakia)

Faculty of Civil Eng., Brno UT (Czech Republic)

Faculty of Civil Eng., TU Prague (Czech Republic)

Cracow University of Technology (Poland)

Faculty of Civil Eng., Skopje (North Macedonia)

Rutgers University, New Jersey (USA)

Saint Petersburg State University of Architecture and Civil Engineering (The Russian Federation)

Institute of Earthquake Engineering and Engineering Seismology (Rep. of North Macedonia)

Signed MoUs with professional institutions:

Blackrock Expert services (England)

China Road and Bridge Corporation (China)

Holcim Croatia (part of Lafarge Holcim Group)

ACADEMIC MOBILITY PROGRAMME

Under the auspices of University, Faculty realizes:

- outgoing mobility towards strategic partners depending of the national aspirations
- mobility towards higher education institutions throughout the world
- mobility of doctoral students of the University of Zagreb (conference invitations)
- announcement of incoming mobility based on bilateral inter-university agreements, and
- incoming mobility aimed at concluding new agreements and initiating new forms of cooperation

MOBILITY DAY

In order to encourage students and teachers and administrative staff to greater academic mobility, the Faculty organises a Mobility Day. At this event, experiences are exchanged between colleagues from the Agency for Mobility and EU Programmes, the Office for International Cooperation of the University, and the real users of mobility, students and teachers. Examples of good practice and user experience contribute to the development of a networking strategy with foreign scientific institutions.



- Mobility is largely realized in Europe, but also towards non-European strategic partners such as Russia and the United States

**RESEARCH &
DEVELOPMENT**

National Projects

International Projects

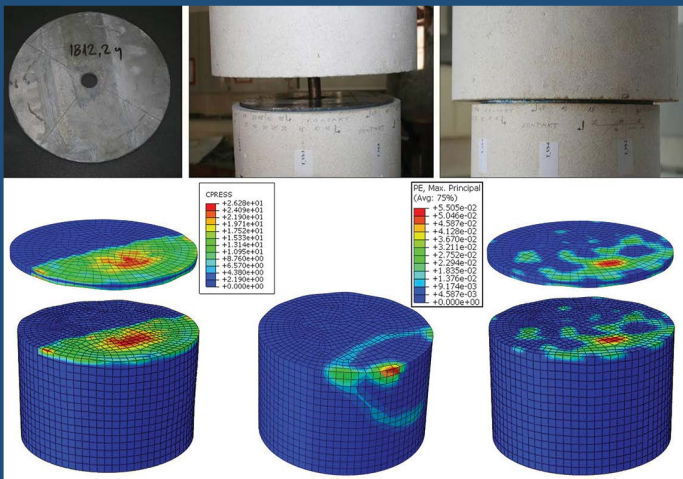
PhD Events

International Conferences & Workshops

Journals & Books

Eminent Associates

Awards



National Projects

Project title	Financing program	Leading Partner (Country)	Duration
HYDROSCIENCE AND ENGINEERING			
Use of treated oily wastewater and sewage sludge in brick industry – production of innovative brick products in the scope of circular economy	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2019-2024
Sustainable construction of artificial gravel beaches – Construction of new beaches and an increase of existing capacity (BEACHEX) http://grad.hr/beachex/	Research Cooperability Program of Croatian Science Foundation	Faculty of Civil Engineering, University of Zagreb	2019-2023
Remote Real-time Riprap Protection Erosion Assessment on large rivers (R3PEAT) http://www.grad.hr/r3peat/	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2019-2024
Development of system for control and protection from introduction of alien species (PROTECTAS) https://www.irb.hr/eng/Divisions/Center-for-Marine-Research/Projects/Development-of-system-for-control-and-protection-from-introduction-of-alien-species-ProtectAS	European Structural and Investment Fund (ESIF)	University of Dubrovnik	2019-2023
Advanced monitoring of pollution and soil salinization risk in the agroecosystems	European Regional Development Fund	University of Zagreb Faculty of Agriculture	2020-2023
Use of pipe culverts to improve quality of seawater in ports/marinas http://gradjevinskifakultet.wixsite.com/ekomarina	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2015-2019
Reuse of sewage sludge in concrete industry – from microstructure to innovative construction products http://www.grad.hr/rescue/	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2014-2017
STRUCTURES			
ARES - Condition assessment and renovation of existing buildings - Development of modern methods for masonry and wooden structures, UIP-2019-04-3749 http://www.grad.hr/ares	Establishment research project of the Croatian Science Foundation	Faculty of Civil Engineering, University of Zagreb	2020-2025
Seismic and energy recovery of existing structures	Support for researchers to apply for EU Research Council programs - Croatian Science Foundation Project	Faculty of Civil Engineering, University of Zagreb	2020
Development of a modular house using innovative wooden elements	Competitiveness and Cohesion 2020, Ministry of Economy, Entrepreneurship and Crafts	TERSA Ltd, Croatia	2020-2022

Project title	Financing program	Leading Partner (Country)	Duration
Autonomous system for assessment and prediction of infrastructure integrity (ASAP) https://asap-project.com/	Operational Programme Competitiveness and Cohesion 2014 – 2020, Investment in science and innovation, European Regional Development Fund	Faculty of Civil Engineering, University of Zagreb	2019-2022
Prototype of multipurpose timber - structural glass composite panel www.grad.unizg.hr/vetro lignum	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2017-2020
Influence of concrete damage on reinforcement corrosion – computer simulation and in service performance of bridges: CODEbridges www.grad.unizg.hr/codebridges	Unity Through Knowledge (UKF), My First Collaboration Grant	Faculty of Civil Engineering, University of Zagreb	2017-2019
MATERIALS			
Composite lightweight panel with integrated load-bearing structure, KLIK PANEL	Capacity-building in research, development and innovation	Faculty of Civil Engineering, University of Zagreb	2020-2023
Development of a new innovative ECO ₂ Flex product http://www.grad.hr/atom/index.php/hr/ecoflex/	Operational Programme Competitiveness and Cohesion 2014 – 2020, European Regional Development Fund	CALUCEM, Croatia	2020-2023
Development of concrete for sustainable construction in marine environment	Operational Programme Competitiveness and Cohesion 2014 – 2020, European Regional Development Fund	TPA, Croatia	2020-2023
Cementitious Composites Reinforced with Waste Fibres, ReWire www.rewire.grad.hr	Croatian Science Foundation	Faculty of Civil Engineering, University of Zagreb	2021-2026
Autonomous system for assessment and prediction of infrastructure integrity (ASAP) https://asap-project.com/	Operational Programme Competitiveness and Cohesion 2014 – 2020, Investment in science and innovation, European Regional Development Fund	Faculty of Civil Engineering, University of Zagreb	2019-2022

Project title	Financing program	Leading Partner (Country)	Duration
Alternative binders for concrete: understanding microstructure to predict durability (ABC) http://www.grad.hr/latom/index.php/projects/abc/	Croatian Science Foundation Installation Research Projects	Faculty of Civil Engineering, University of Zagreb	2019-2024
Transformation of Wood Biomass Ash into Resilient Construction Composites (TAREC ₂) https://www.grad.unizg.hr/tarec	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2016-2021
Research and development of e-marketplace of energy refurbishment of buildings and industry www.speculum.hr	Competitiveness and Cohesion 2020, Ministry of Economy, Entrepreneurship and Crafts	Speculum Ltd, Croatia	2018-2019
Developing new innovative building composties using bioash http://www.betonlucko.hr/	Operational Programme Competitiveness and Cohesion 2014 – 2020, European Regional Development Fund	BETON LUČKO RBG, Croatia	2019-2023
CPD4GB Continuous Professional Development for Green Building www.cpd4gb.com.hr	European Social Fund (ESF)	HIS Hrvatski inženjerski savez (Croatian Engineering Association)	2018-2020
CONSTRUCTION MANAGEMENT AND ECONOMICS			
Automated resource standardization for construction of energy efficient buildings	European regional development fund	Faculty of Civil Engineering, University of Zagreb	2020-2023
CPD4GB Continuous Professional Development for Green Building <i>*coordinated at the Department of Materials</i> www.cpd4gb.com.hr	European Social Fund (ESF)	HIS Hrvatski inženjerski savez (Croatian Engineering Association)	2018-2020

Project title	Financing program	Leading Partner (Country)	Duration
TRANSPORTATION ENGINEERING			
Sensor system for continuous monitoring of the behavior of the pavement structure under load http://geoprojekt.hr/	Operational programme competitiveness and cohesion 2014 - 2020, Ministry of Economy and Sustainable Development	Geoprojekt d.d., Croatia	2020-2023
Development of DIV elastic fastening system www.divgroup.eu	Competitiveness and Cohesion 2020, Ministry of Economy, Entrepreneurship and Crafts	DIV d.o.o.	2018-2022
ENGINEERING MECHANICS			
Development of a modular house using innovative wooden elements	Competitiveness and Cohesion 2020, Ministry of Economy, Entrepreneurship and Crafts	TERSA Ltd, Croatia	2020-2022
Autonomous system for assessment and prediction of infrastructure integrity (ASAP) https://asap-project.com/	Operational Programme Competitiveness and Cohesion 2014 – 2020, Investment in science and innovation, European Regional Development Fund	Faculty of Civil Engineering, University of Zagreb	2019-2022
Development of DIV elastic fastening system www.divgroup.eu	Competitiveness and Cohesion 2020, Ministry of Economy, Entrepreneurship and Crafts	DIV Ltd	2018-2022
Novel, Efficient Iterative Procedure for the Structural Analysis - Generalisation of Modern Methods www.hrzz.hr	Croatian Science Foundation Research Project	Faculty of Civil Engineering, University of Zagreb	2015-2019



— Noise barriers RUONBAR mounted next to the railway

International Projects

Project title	Financing program	Leading Partner (Country)	Duration
GEOTECHNICS			
oVERFLOW (Vulnerability Assessment of Embankments and Bridges Exposed to flooding hazards)	European Commission, European Civil Protection and Humanitarian Aid Operations (DG ECHO)	Faculty of Civil Engineering, University of Zagreb	2019-2021
DESTinationRAIL (Decision Support Tool for Rail Infrastructure Managers) www.destinationrail.eu	European Commission Innovation and Networks Executive Agency, EU Frame-work Programme Horizon 2020	Gavin and Doherty Geosolutions LTD, Ireland	2015-2018
GoSAFE (Global Safety Management Framework for RAIL Operations) www.gosaferail.eu	European commission Innovation and Networks Executive Agency, EU Framework Programme Horizon 2020, Shift2Rail Programme	Gavin and Doherty Geosolutions LTD, Ireland	2016-2019
SAFE-10-T (Safety of Transport Infrastructure on the TEN-T) www.safe10tproject.eu	European Commission Innovation and Networks Executive Agency, EU Frame-work Programme Horizon 2020	Gavin and Doherty Geosolutions LTD, Ireland	2017-2020
Action TU1405 European network for shallow geothermal energy applications in buildings and infrastructures (GABI) www.foundationgeotherm.org	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	IFSTTAR, France	2015-2019
HYDROSCIENCE AND ENGINEERING			
Intelligent Bridge Assessment Maintenance and Management System (BRIDGE SMS) www.bridgesms.eu	European commission - Research Executive Agency, FP7 Programme (Marie Curie)	University College Cork, Ireland	2015-2018
Integrated Approach to Management of Groundwater Quality in Functional Urban Areas (AMIIGA) www.interreg-central.eu/Content.Node/AMIIGA.html	EU European Regional Development Fund, Interreg Central Europe	Central Mining Institute, Poland	2016-2019
Future proofing strategies FOr RESilient transport networks against Extreme Events (FORESEE) https://cordis.europa.eu/project/rcn/217615/factsheet/en	EU Framework Programme Horizon 2020	Fundacion Tecnalia Research & Innovation, Spain	2018-2022

Project title	Financing program	Leading Partner (Country)	Duration
STRUCTURES			
Action CA15202, Self-healing As preventive Repair of Concrete Structures – SARCOS http://www.sarcos.eng.cam.ac.uk	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	University of Cambridge,Cambridge, United Kingdom	2016-2021
Action CA18109, Accelerating Global science In Tsunami HAZard and Risk analysis – AGITHAR https://www.agithar.uni-hamburg.de	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Universität Hamburg, Germany	2019-2023
UKF Gaining Experience Grant, 2018 (2A): Investigations on spot welded built-up cold-formed steel beams https://www.grad.unizg.hr/spotwelded	UKF – Unity through knowledge found		2019
Action CA18120, Reliable roadmap for certification of bonded primary structures https://certbond.eu	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Technische Universiteit Delft, Netherlands	2019-2023
Strategic Partnerships for vocational education and training KA2-VET-16/20 “Skilled to be a Fire Expert”	ERASMUS+ 2020	University of Ljubljana, Slovenia	2020-2022
Action CA 17107 - CONTEXT: European Network to connect research and innovation efforts on advanced Smart Textiles https://www.cost.eu/actions/CA17107	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Associacio Agrupacio d'Empreses Innovadores Textils, Spain	2018-2023
Action CA 18203 - ODIN: Optimising Design for Inspection https://www.cost.eu/actions/CA18203	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Cardiff University, United Kingdom	2019-2023
Durability of reinforced concrete structures – Croatian and Canadian practices (CROCANDY)	Collaborative Canadian-Croatian research project	University of Toronto, Canada	2019-2020
INCEPTION (Inclusive Cultural Heritage in Europe through 3D semantic modelling) http://www.inception-project.eu/	European commission Innovation and Networks Executive Agency, EU Framework Programme Horizon 2020	Universita degli studi di Ferrara, Italy	2015-2019
Valorisation of Knowledge for Sustainable Steel-Composite Bridges in Built Environment (SBRlplus) www.grad.unizg.hr/sbriplus	European Commission, The Research Fund for Coal & Steel (RFCS)	ArcelorMittal (AMBD), Luxembourg	2016-2018

Project title	Financing program	Leading Partner (Country)	Duration
Action TU1402: Quantifying the value of structural health monitoring www.cost-tu1402.eu	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Technical University of Denmark, Denmark	2014-2019
Action TU 1406: Quality specifications for road bridges, standardisation at a European level (BridgeSpec) www.tu1406.eu	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	University of Minho, Portugal	2014-2019
Action FP1402: Basis of structural timber design - from research to standards www.costfp1402.tum.de/	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Technical University of Munich, Germany	2014-2018
Action TU1403: Adaptive: Adaptive Facades Network www.tu1403.eu/	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Lucerne University of Applied Science and Arts, Switzerland	2014-2018
Action CA16114 RESTORE, REthinking Sustainability Towards a Regenerative Economy www.eurestore.eu/	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Eurac Research, Italy	2017-2021
Action CA 18120-BOND: Reliable roadmap for certification of bonded primary structures https://www.cost.eu/actions/CA18120	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Delft University of Technology, the Netherlands	2019-2023
Seismic behaviour of multi-storey buildings http://www.grad.unizg.hr/earthquake	Unity through Knowledge Fund, My First Collaboration Grant	Partner institution: Innorenew CoE, Izola, Slovenia	2019
Investigations on spot welded built-up cold-formed steel beams	Unity through Knowledge Fund, My First Collaboration Grant	Partner institution: Politehnica University Timisoara, Romania	2019

Project title	Financing program	Leading Partner (Country)	Duration
MATERIALS			
Climate Resilient Concrete Paving Block, Crick	Bilateral Joint Projects Austria/ Croatia	Faculty of Civil Engineering, University of Zagreb	2020 - 2022
Skilled to be fire expert	Erasmus+ KA2 Strategic partnership project	University of Ljubljana	2020 – 2022
Consumer engagement in building renovation and renewable energy cooperatives for grassroot climate action (CONGREGATE)	European Climate Initiative, EUKI, 2020.	Energy Efficiency Centre, Bulgaria	2020-2023
The nZEB Roadshow www.nzebroadshow.eu	EU Framework Programme Horizon 2020	Energy Efficiency Centre, Bulgaria	2020-2022
Innovative training schemes for retrofitting to nZEB-levels (Fit-to-nZEB) www.fit-to-nzeb.com	European Commission Innovation and Networks Executive Agency, EU Framework Programme Horizon 2020	Energy Efficiency Centre, Bulgaria	2017-2019
PhD Training Network on Durable, Reliable and Sustainable Structures with Alkali-Activated Materials (DuRSAAM) https://dursaam.ugent.be/	European Commission, EU Framework Programme Horizon 2020, Marie Curie Innovative Training Networks	Ghent University, Belgium	2018-2022
Phenomenological Modelling of Carbonation-Induced Corrosion of Radioactive Waste Disposal Structures (PHENEMICS) https://www.grad.unizg.hr/corrosion	European Commission Marie Skłodowska Curie FP7-PEOPLE-2011-COFUND program	Faculty of Civil Engineering, University of Zagreb; Commissariat à l'énergie atomique et aux énergies alternatives CEA, Saclay	2014-2017
Innovative Use of all Tyre Components in Concrete (Anagennisi) www.anagennisi.org	European Commission Innovation and Networks Executive Agency, FP7	University of Sheffield, UK	2014-2017
Prominent MED - Public pROcureMent of INnovation boosting greEN growTh in MED area https://prominent-med.interreg-med.eu/	European Regional Development Fund - Interreg Mediterranean	SVILUPPUMBRIA – Società Regionale per lo sviluppo economico dell'Umbria, Italy	2016-2019

Project title	Financing program	Leading Partner (Country)	Duration
Concerted Action EPBD IV www.epbd-ca.eu/	European Commission's Executive Agency for Small and Medium-sized Enterprises (EASME), EU Framework Programme Horizon 2020	Energistyrelsen DEA, Denmark	2015-2018
Build Up Skills CROSKILLS II - Strengthening energy efficiency SKILLS and certification schemes for building workers https://croskills.hr/	European Commission's Executive Agency for Small and Medium sized Enterprises, Intelligent Energy Europe program	Faculty of Civil Engineering, University of Zagreb	2014-2017
Education for Zero Energy Buildings using Building Modelling Information – BIMzeED http://bimzeed.eu/	ERASMUS + programme	Limerick Institute of Technology, Ireland	2019-2021
Net-UBEP Network for Using BIM to Increase the Energy Performance www.net-ubiep.eu/hr	EU Framework Programme Horizon 2020	ENEA, Italy	2017-2020
Action TU1404 Towards the next generation of standards for service life of cement-based materials and structures www.tu1404.eu	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	University of Minho, Portugal	2014-2018
Action FP1404: Fire safe use of bio-based building products http://www.costfp1404.com/	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	ETH Zurich, Switzerland	2014-2018
In-situ 3D monitoring in real time cracking of concrete based on sustainable binders (IMCRAC)	Hubert Curien "Cogito" programme, France-Croatia cooperation	Faculty of Civil Engineering, University of Zagreb	2017-2018
Advanced Low CO ₂ Cementitious Materials, ACT http://www.grad.hr/latom/index.php/projects/act/	Croatian-Swiss Research Programme, Swiss Science Foundation NSF, Croatian Science Foundation HRZZ	École Polytechnique Fédérale de Lausanne, Switzerland; Faculty of Civil Engineering, University of Zagreb	2019-2021

Project title	Financing program	Leading Partner (Country)	Duration
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CONSTRUCTION MANAGEMENT AND ECONOMICS

Construction Safety with Education and Training using Immersive Reality (CSETIR) http://csetir.civil.auth.gr/	Erasmus + Cooperation for innovation and exchange of good practices	Technical University Košice, Slovakia	2019-2022
Net-UBEP Network for Using BIM to Increase the Energy Performance www.net-ubiep.eu/hr	EU Framework Programme Horizon 2020	ENEA, Italy	2017-2020
IPMA Organisation Competence Baseline v 2.0. standard development www.ipma.world	International Project Management Association (IPMA)	IPMA, the Netherlands	2018-2021
Educational Lab – Big Machine https://paginas.fe.up.pt/~elbigmac/project/	Erasmus + Cooperation for innovation and the exchange of good practices	University of Porto, Portugal	2016-2019
IPMA Individual Competence Baseline 4.0. Agile, Consultant, Coaches & Trainers standard development <i>*coordinated at the Department of Materials</i> www.ipma.world	International Project Management Association (IPMA)	IPMA, the Netherlands	2015-2019

TRANSPORTATION ENGINEERING

COST Action CA15125 Designs for noise reducing materials and structures (DENORMS) www.denorms.eu	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Le Mans University, France	2016-2020
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MATHEMATICS

Contemporary approach to some classical Diophantine problems	Scientific and Technological Cooperation (WTZ Programme), Austria/Croatia	Technische Universität Graz	2020-2021
Quantum Technologies with Ultra-Cold Atoms (AtomQT)	European Cooperation in Science and Technology (COST), EU Framework Programme Horizon 2020	Foundation for Research and Technology - Hellas (FORTH), Grčka	2018-2021
Graph-theoretical methods for nanostructures and nanomaterials	Croatian-Chinese Scientific and Technological Cooperation	Faculty of Civil Engineering, University of Zagreb & School of Mathematics and Statistics, Lanzhou University, China	2016-2018



— ECO-SANDWICH® innovative product developed within the project Energy Efficient, Recycled Concrete Sandwich Facade Panel

PhD Events

In order to meet modern-day challenges, the Faculty has established a new form of doctoral studies in civil engineering in 2014. Outstanding research work has to be the foundation of doctoral studies as it opens new challenges, but also enables progress of the economy and sustainable development of the society, which is today a top priority.

Therefore, each year in September, under the auspices of the Board for Research & Development, the Faculty organises a PhD Symposium in order to provide the PhD students with the possibility to present their research activities, and to obtain guidance and advice from elder colleagues, postgraduates, mentors, and experts through keynote lectures, workshops, and discussion panels. The objective is to upscale this event for young researchers and bring it to an international level.

<http://www.grad.hr/phd-simpozij/>



■ PhD symposium for young researchers organised each September

International Conferences & Workshops

Faculty members join and organise scientific committees of numerous conferences around the world.

In addition, the Faculty organises diverse international events in Croatia such as:

- RILEM Conference on sustainable materials, systems and structures – RILEM SMSS,
<http://grad.hr/rilem.smss/>
- Future Trends in Civil Engineering – FTCE,
<http://www.grad.hr/ftce/indexEN.php>
- International Conference on Road and Rail Infrastructure – CETRA,
<http://www.grad.unizg.hr/cetra>
- International Conference on Construction Materials for Sustainable Future – CoMS,
<http://www.grad.hr/coms/ocs/index.php/coms/coms2017>
- International Conference – Organization Technology and Management in Construction – OTMC,
<http://www.otmc-conference.com/>
- International Symposium on Water Management and Hydraulic Engineering – WMHE,
<http://www.grad.hr/wmhe2017/>
- International Conference on Applications of Structural Fire Engineering – ASFE'15,
<http://www.grad.unizg.hr/asfe2015>
- Conferences, Workshops and Training Schools related to various European projects and Actions,
<https://www.grad.unizg.hr/joint-zagreb-workshop>
- Eastern European IWA YWP Conference – IWA YWP,
<https://iwa-network.org/events/10th-eastern-european-iwa-ywp-conference/>
- 3rd Croatian Combinatorial Days – Crocodays,
<http://www.grad.hr/crocodays/index.html>



Participants of the RILEM Conference on sustainable materials, systems and structures, held in March 2019 in Rovinj

Journals & Books

The Faculty-owned Journals:

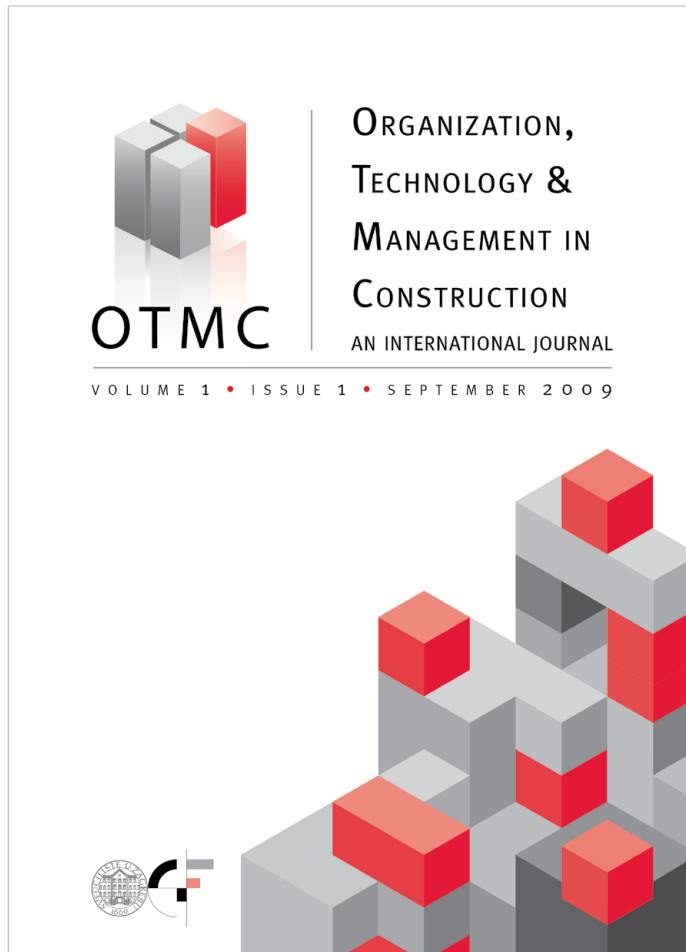
- **Organization, Technology and Management in Construction Journal** – an International open access Journal/ Publisher: University of Zagreb, Faculty of Civil Engineering / Mladen Vukomanović, Editor in Chief, Anita Cerić & Ivica Završki, Editors

Internationally published books:

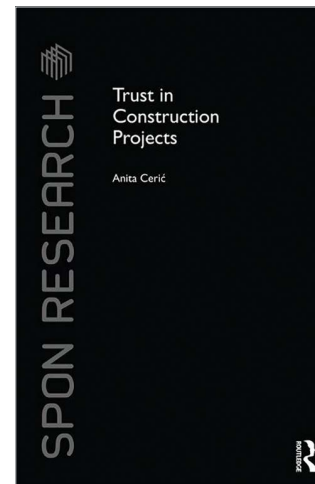
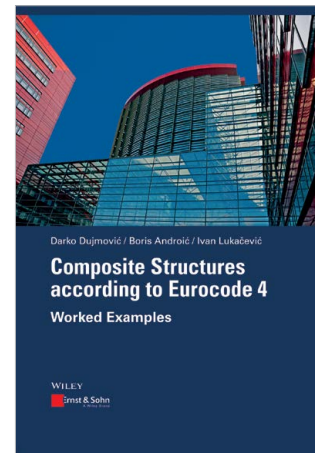
- **Composite Structures according to Eurocode 4: Worked Examples** / Wilhelm Ernst & Sohn, A Wiley Company, Berlin, 2015. / Dujmović, D., Androić, B., Lukačević, I.
- **Trust in Construction Projects** / Oxon: Routledge, Taylor&Francis Group, 2016 / Cerić Anita

Editing International Journals:

- **Civil Engineer (Građevinar)**, Journal of the Croatian Association of Civil Engineers / Publisher: Croatian Association of Civil Engineers; Stjepan Lakušić, Editor in Chief
- **Structural Engineering International**, Journal of the International Association for Bridge and Structural Engineering IABSE / Publisher: Taylor&Francis; Ana Mandić Ivanković, Editorial Board Vice Chair
- **Technical Gazette**, University J. J. Strossmayer in Osijek; Ivica Džeba, Council of Experts Member
- **International Journal of Structural Glass and Advanced Materials Research** / Science publications / Vlatka Rajčić, Editorial Board Member
- **Traffic & Transportation (Promet)** / Publisher: University of Zagreb, Faculty of Transport and Traffic Sciences; Vesna Dragčević Scientific Committee Member
- **Building Research Journal** / Publisher: Institute of Construction and Architecture, Slovak Academy of Sciences; Dubravka Bjegović, Member of the Editorial Board
- **Building Materials and Structures** / Publisher: Society for Materials and Structures Testing of Serbia; Dubravka Bjegović, member of the Editorial Board
- **Frontiers in Built Environment** / Frontiers, Lausanne Switzerland; Marija Kušter Marić, Member of the Editorial Board
- **Frontiers in Built Environment - Transportation and Transit Systems** / Frontiers, Lausanne Switzerland; Ivo Haladin, Member of the Editorial Board
- **The Engineering Project Organization Journal** / Publisher: Taylor and Francis; Anita Cerić, Editorial Board member
- **International Journal of Project Management** / Publisher: Elsevier; Mladen Vukomanović, Editorial Board member
- **PM World Journal**, PM World Inc.; Mladen Vukomanović, Editorial Board member
- **Project Management Research and Practice**, UTS ePRESS; Mladen Vukomanović, Editorial Board member
- **European Project Management Journal**, IPMA Srbija; Mladen Vukomanović, Editorial Board member
- **Project Leadership and Society**, Elsevier; Mladen Vukomanović, Editorial Board member



— We are internationally published...



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Eminent

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Services SRL, Buenos Aires, Argentina Roger Flanagan, University of Reading, UK Roko Žarnić, University of Ljubljana, Slovenia Rosário Bernardo, Universidade Aberta, Portugal Rüdiger Ehlers, Deutsches Forschungszentrum fuer Kuenstliche Intelligenz, Germany Rudolf Eger, RheinMain University of Applied Sciences, Germany Sebastian Thöns, Technical University of Denmark, Denmark Sergey Bushuyev, Kyiv National University of Construction and Architecture, Kiev, Ukraine Stanko Brčić, Faculty of Civil Engineering, University of Belgrade, Serbia Stephan Semprich, TU Graz, Austria Stephen Wells, Virtus Ltd., UK Stijn Matthys, Department of Structural Engineering, Ghent University, Belgium Suzana Ilić, Lancaster University, United Kingdom Talat Birgönül, Middle East Technical University, Turkey Taryn Jane Bond-Barnard, Department of Engineering and Technology Management, University of Pretoria, South Africa Tatjana Vilutiene, Vilnius Gediminas Technical University Tetsuro Seki, Bunkyo University, Japan Timo Hartmann, TU Berlin, Germany Tomaš Hanak, University of Brno, Czech Republic Uroš Klanšek, Faculty of Civil Engineering, Transportation Engineering and Architecture, University of Maribor, Slovenia Vahida Zujo, University of Mostar, Bosnia and Herzegovina Valentina Žileska – Pančovska, University Ss. Cyril and Methodius, Macedonia Valerie L'Hostis, Commissariat à l'énergie atomique CEA Saclay, France Vanessa Katsardi, University of Thessaly, Greece Vasiliky Tsoukala, National Technical University of Athens, Greece Vijay Ramdas, TRL Limited, UK Vikram Pakrashi, University College Dublin, Ireland Vladimir Obradović, University of Belgrade, Serbia Will Hughes, University of Reading, UK Wim Bakens, International Council for Building (CIB) Wulf Schubert, TU Graz, Austria Yan Xue, Peking University, Beijing, China Yvonne du Plessis, Business School, North-West University, South Africa Yvonne Schoper, Department of Business Studies, HTW University of Applied Sciences, Germany...

Associates

Awards

Medal of the City of Zagreb 2020 for post-earthquake activities

- medal to employees Assoc. Prof. Josip Atalić, Assist. Prof. Mario Uroš, and Assist. Prof. Marta Šavor Novak for selfless contribution to citizens of the City of Zagreb and for knowledge and expertise demonstrated in assessing earthquake damage during building condition inspections in Zagreb

Colossus Award 2020

- for outstanding professional achievements in the category of structures for the project Mainland - Čiovo Island Bridge: Zlatko Šavor Ph.D., Nijaz Mujkanović M.Sc., and Gordana Hrelja Kovačević M.Eng.
- for exceptional commitment shown in damage assessment activities after the earthquake in Zagreb and its surroundings: Assoc. Prof. Josip Atalić, Assist. Prof. Mario Uroš, and Assist. Prof. Marta Šavor Novak

Recognition of the Croatian Chamber of Economy for Excellence, Innovation and Entrepreneurship in Civil Engineering 2020

- bestowed on employees of the Faculty of Civil Engineering for efforts they have been making over the years in the development of new products and technologies in cooperation with Croatian companies, and in education of new experts in the field of civil engineering

Innovative product RUCONBAR - Rubberised Concrete Noise Barriers, (www.ruconbar.com):

- Gold medal at the 65th Bruxelles International Exhibition of Innovation, Research and New Technologies, INNOVA 2016
- Golden medal at the 44th Geneva International Exhibition of Inventions 2016
- Crystal Globe at the 2018 International Road Federation IRF Global Road Achievements Awards in the category "Research"
- RailTech Innovation Award in category "Infrastructure" at the RailTech Europe 2019 Conference & Exhibition

Innovative product ECO-SANDWICH® - prefabricated wall panels, (<http://www.eco-sandwich.hr>):

- Gold medal at the 63rd Brussels International Exhibition of Innovation, Research and New Technologies INNOVA 2014
- Gold medal at the 38th Zagreb International Exhibition of Innovations INOVA 2013

Innovative solution Zagreb 21-CTT: Tram track fastening system for vibration attenuation and enhanced stray current resistance:

- Gold medal at the 14th International Exhibition of Inventions ARCA 2016

BRIDGE SMS project: Intelligent solution for inspection and management of bridge scour risk and

Innovative solution for weather monitoring WILD (Weather Information Logging Device) unit, (<http://www.bridgesms.eu/>):

- Silver medal at the 14th international exhibition of inventions ARCA 2016

Innovative solution Zagreb 21-STT: Slab tram track with high impact energy absorption:

- Silver medal at the 13th International Exhibition of Inventions ARCA 2015

Crystal Globe won
for RUONBAR
noise barriers
in 2018



DEPARTMENT OF
CONSTRUCTION
MANAGEMENT AND
ECONOMICS

Prof. Anita Cerić, PhD

Chair for Organization
of Construction

Chair for Management
in Construction

Chair for Construction
Technology

DEPARTMENT OF
ENGINEERING
MECHANICS

Prof. Mladen Meštrović, PhD

Chair for Statics, Dynamics
and Stability of Structures

Chair for Mechanics of
Materials and Testing of
Structures

Structural Testing
Laboratory

DEPARTMENT OF
GEOTECHNICS

Prof. Meho Saša Kovačević, PhD

Chair for Soil and Rock
Mechanics

Chair for Geotechnical
Engineering

Geotechnical Laboratory

DEPARTMENT OF
HYDROSCIENCE AND
ENGINEERING

Prof. Neven Kuspilić, PhD

Chair for Fundamental Research in
Hydroscience

Chair for Hydraulic Engineering

Chair for Sanitary and
Environmental Engineering

Hydrology and Hydraulics
Laboratory

DEPARTMENT OF
MATERIALS

Prof. Ivana Banjad Pečur, PhD

Chair for Materials Research

Chair for Materials Technology
Laboratory for Materials

DEPARTMENT OF
STRUCTURAL
ENGINEERING

Prof. Vlatka Rajčić, PhD

Chair for Concrete and Masonry
Structures

Chair for Metal Structures

Chair for Timber Structures

Chair for Bridges

DEPARTMENT OF
TRANSPORTATION
ENGINEERING

Prof. Vesna Dragčević, PhD

Chair for Roads

Chair for Railways

Laboratory for Transportation

DEPARTMENT OF
MATHEMATICS

Prof. Tomislav Došlić, PhD

Chair for Geometry and Physics

Chair for Mathematics

INDEPENDENT CHAIR
FOR BUILDINGS

Assist. Prof. Silvio Bašić, PhD

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND ECONOMICS

Chair for Organization of Construction

Chair for Management in Construction

Chair for Construction Technology

EDUCATION

- 9 courses for undergraduate students; 21 courses for graduate students; 11 courses for postgraduate students;
- 17 courses for masters of business administration; 10 courses for university specialists in organization of construction

RESEARCH TOPICS

- Asset Management
- Automation and Robotisation
- Building Information Modelling
- Construction Economics
- Construction Management
- Digitization and Development of Construction Industry
- Human Resources
- Legal Aspect of Construction
- Project Management
- Establishment of the international Web of Science indexed journal: Organization, Technology and Management in Construction: An International Journal (ISSN 1847-5450).

PROFESSIONAL ACTIVITIES

- Building Information Modelling
- Construction and Project Management Services
- Facility and Asset Management
- Feasibility Studies and Construction Organization Design
- Human Resources Management
- ICT systems for Construction
- Construction Supervision
- Construction Technology Design
- Involvement in activities of major global societies, such as the Academy of Management, American Society of Civil Engineers, CIB, Engineering Project Organization Society, IPMA, PMI, United Nations Office for Disaster Risk Reduction - UNDRR

Understanding challenges in applying different building technologies



DEPARTMENT OF ENGINEERING MECHANICS

Chair for Statics, Dynamics and Stability of Structures

Chair for Mechanics of Materials and Testing of Structures

Structural Testing Laboratory

EDUCATION

- 8 courses for undergraduate students; 19 courses for graduate students; 15 courses for postgraduate students

RESEARCH TOPICS

- seismic risk assessment and mitigation in urban areas
- post-earthquake assessment of buildings and earthquake engineering
- fracture mechanics, shear in plain concrete and FRC structural elements
- structural stability of complex structures and components
- numerical modelling of complex dynamic problems
- fast iterative methods for structural analysis
- form finding procedures for prestressed cable nets
- damage detection and assessment of structures, historical buildings
- structural damage assessment using dynamic parameters
- application of drones (ILI UAV) in assessment of transport infrastructure
- experimental research in development of railway infrastructure fastening systems
- experimental research in development of wooden structures modular systems

PROFESSIONAL ACTIVITIES

- design and consulting activities
- structural design and seismic assessment of structures
- dynamic and stability analysis of structures affected by wind and earthquake action
- base isolation and isolation of vibration
- design of tensegrity structures and structures made of ropes, cables and fabrics
- structural analysis and reconstruction design of historical buildings
- numerical simulation of contact problems and fatigue of structural elements
- structural/material testing activities, determination of mechanical properties of materials
- laboratory testing of structural elements
- load bearing capacity testing of structural elements
- non-destructive tests on structures
- static and dynamic load testing of large infrastructural structures
- static and dynamic structural health monitoring systems of civil engineering structures



— The dome Višnjik, Zadar, Croatia

DEPARTMENT OF GEOTECHNICS

Chair for Soil and Rock Mechanics

Chair for Geotechnical Engineering

Geotechnical laboratory

EDUCATION

- 3 courses for undergraduate students; 16 courses for graduate students; 8 courses for postgraduate students
- students are learning about different aspects of geotechnics: from basic principles of soil mechanics, rock mechanics and geology to applied aspects including investigation works in the laboratory and in the field
- courses cover: engineering geology and hydrogeology, geotechnical monitoring, numerical modelling in geotechnics, foundations, soil and rock improvement, retaining structures, rockfall and landslide stabilization, embankments, tunnels, etc.

RESEARCH TOPICS

- implementation of novel techniques for increasing safety of geotechnical aspects of railways and roads
- predicting and observing behaviour of structures in soil and rock with the focus on interactive design
- effective soil and rock improvement methods
- behaviour of granular materials
- application of field testing methods for classification of soil using neural networks
- possibilities of exploitation of shallow geothermal energy by energy geo-structures
- engineering-geological aspects of karst
- determination of rock bolt grouting quality by analysis of its natural frequencies

PROFESSIONAL ACTIVITIES

- conduct of field and laboratory investigation works
- development of preliminary, main and detailed designs of various geotechnical structures
- monitoring and observing behaviour of geotechnical structures during construction and use
- expertise and counselling related to various problems in the design and construction of geotechnical structures
- auditing design of various geotechnical structures



Measurement of pile integrity

DEPARTMENT OF HYDROSCIENCE AND ENGINEERING

Chair for Fundamental Research in Hydrosience

Chair for Hydraulic Engineering

Chair for Sanitary and Environmental Engineering

Hydrology and Hydraulics Laboratory

EDUCATION

- 6 courses for undergraduate students; 22 courses for graduate students; 13 courses for postgraduate students; 6 specialised courses
- department is nurturing active involvement of students in scientific research, performing lifelong learning on infrared thermography and energy audits of buildings

RESEARCH TOPICS

- research and analysis of fluid flow, particularly water and air
- transport phenomena in river basins; ground water, watercourses and sea
- hydrological modelling and extreme analysis, flood forecasting
- hydraulics of open channel and coastal areas
- sediment transport processes and morphodynamics
- large water management systems and their facilities
- water supply, sewerage and wastewater treatment systems
- water quality modelling
- multi-criteria analysis, risk assessments and cost-benefit analysis in flood management, water engineering, wastewater engineering and water ecosystems
- water loss management

PROFESSIONAL ACTIVITIES

- analysis of the existing and design river basin system;
- laboratory testing of various hydraulic and engineering structures;
- preliminary, main and detailed design of water resources and environmental engineering structures;
- expertise related to the waterborne transport systems;
- project review related to water resources and environmental engineering structures;
- studies on the environmental impact assessment



Pressurised water supply network elements

DEPARTMENT OF MATERIALS

Chair for Materials Research

Chair for Materials Technology

Laboratory for Materials

EDUCATION

- 3 courses for undergraduate; 14 for graduate; 7 for postgraduate students; 10 specialised courses

RESEARCH TOPICS

- development and research of sustainable materials and systems
- development of tailored construction products based on locally available by-products
- performance-based design of concrete durability
- innovative materials, products and approaches for durable and sustainable structures
- energy efficiency and nearly-zero energy building research
- mass (heat, vapour) transfer in sustainable materials and systems
- integration of BIM in design of nZEB
- fire engineering and research of fire-resistant materials and systems
- innovative and non-destructive testing methods for materials and systems

PROFESSIONAL ACTIVITIES

- inspection, condition assessment and repair projects of construction facilities
- thermal calculation and testing
- infrared thermography inspection of thermal properties of buildings; Inspection of airtightness with Blower door
- corrosion monitoring and condition assessment of reinforcement
- subsequent quality assessment of built-in materials by using destructive and non-destructive methods
- quality control of materials production and placing
- supervision of construction works during execution or rehabilitation
- design of evacuation in fire
- consulting services during the design of fire protection of buildings
- consulting services on the quality of work performed and the condition of infrastructure buildings

Fire fasade testing



DEPARTMENT OF STRUCTURAL ENGINEERING

Chair for Concrete and Masonry Structures

Chair for Metal Structures

Chair for Timber Structures

Chair for Bridges

EDUCATION

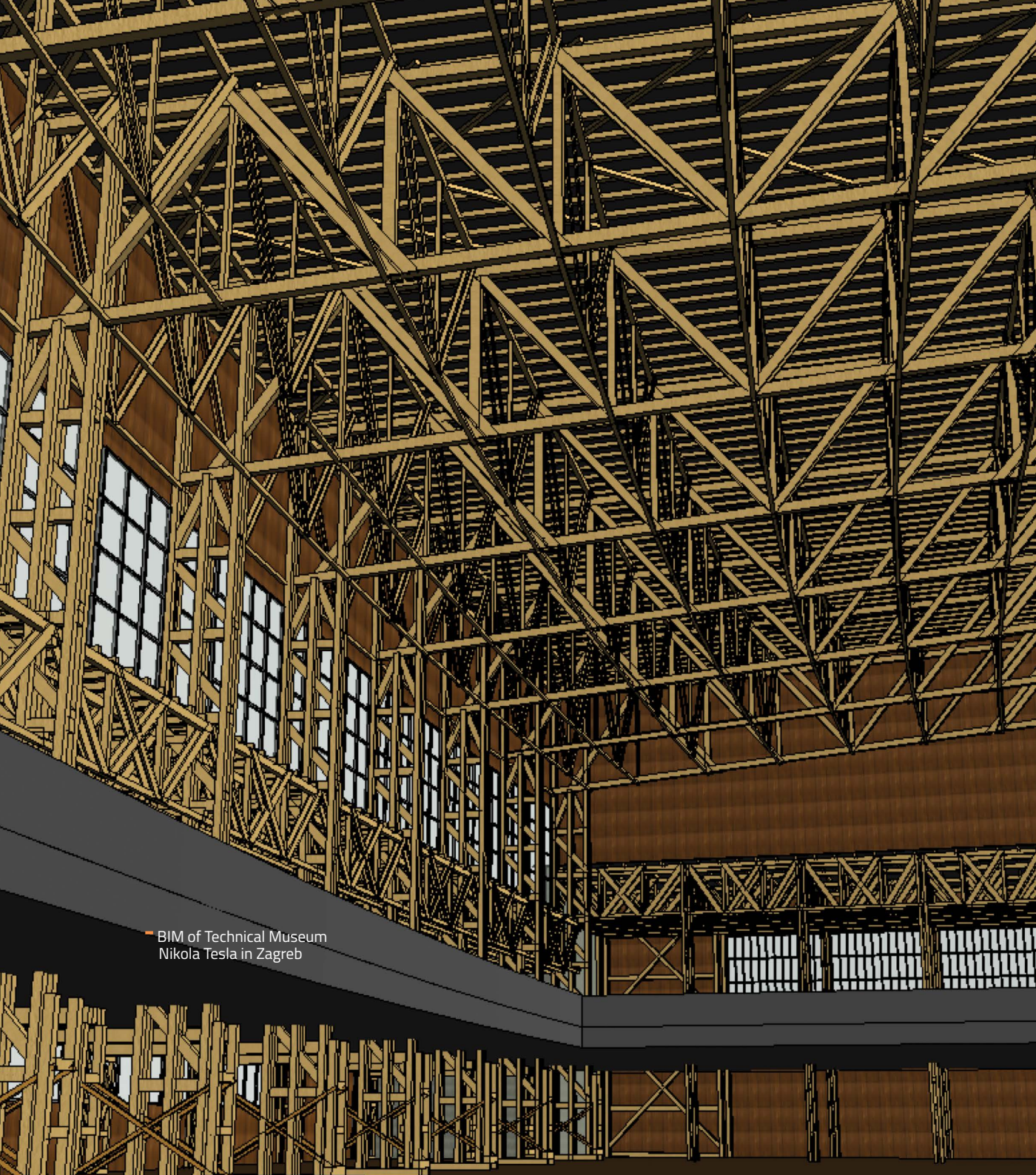
- 5 courses for undergraduate students; 17 courses for graduate; 15 courses for postgraduate students
- a substantial part of the courses is appropriately covered by relevant textbooks and manuals, some of which have been issued abroad

RESEARCH TOPICS

- sustainable steel-composite bridges
- assessment & management of existing bridges
- quantifying the value of structural health monitoring
- innovative connectors and the use of the new wood base materials in timber design
- adaptive facades
- hybrid timber-structural glass systems
- assessment and retrofitting of the existing timber, concrete, and masonry structures
- influence of concrete damage on reinforcement corrosion
- rethinking sustainability towards a regenerative economy
- reliability of steel, aluminum and composite structural elements and connections
- innovative stabilization systems for tall buildings, innovative thin-walled systems of steel elements and panels
- structural fire design
- methods of improving fatigue resistance after welding
- glued structures
- application of non-metallic reinforcement in reinforced concrete structures
- blast loading on structures

PROFESSIONAL ACTIVITIES

- preliminary, main and detailed design of various types of concrete, steel, aluminium, and timber structures
- assessment of bridge structures
- structural health monitoring
- licenced experts state required proof reviews for the design of bridges, concrete structures, steel structures, and timber structures
- assessment by UAV and non-destructive testing aimed at forming the cultural heritage building documentation
- expertise on the condition of steel structures
- innovative projects of mobile/rotating garage systems
- detailed inspections, elaborations of the existing condition, projects of rehabilitation and reinforcement of buildings damaged by the earthquake



■ BIM of Technical Museum
Nikola Tesla in Zagreb

DEPARTMENT OF TRANSPORTATION ENGINEERING

Chair for Roads

Chair for Railways

Laboratory for Transportation

EDUCATION

- 2 courses for undergraduate students, 20 courses for graduate students, and 11 courses for postgraduate students
- In the scope of these courses students are learning about road, railway, and airport infrastructure planning, design, construction, and maintenance.

RESEARCH TOPICS

- application of recycled materials in pavement structure, railway track structure and noise protection walls
- field investigations of rail track fastening systems
- investigation of road vehicle movement geometry
- predicting pavement and railway track performance and implementation of novel techniques for condition assessment
- analysis of various parameters that influence propagation of traffic noise

PROFESSIONAL ACTIVITIES

- preliminary, main, and detailed designs of road and rail structures
- pavement and track design, maintenance and rehabilitation projects
- noise barrier design, noise monitoring and preparation of noise protection reports
- technical supervision and review of road and railway projects
- laboratory testing of various geosynthetic materials
- tramway infrastructure condition assessment and asset management
- railway noise and vibration monitoring and assessment
- design and testing of rail track structures and fastening systems
- expertise and counselling related to various problems in the design and construction of transport structures
- analysis of rail traffic vibration impact on earthquake-damaged buildings



• Determining the total thickness of asphalt layers at Airport Pula apron

DEPARTMENT OF MATHEMATICS

Chair for Geometry and Physics

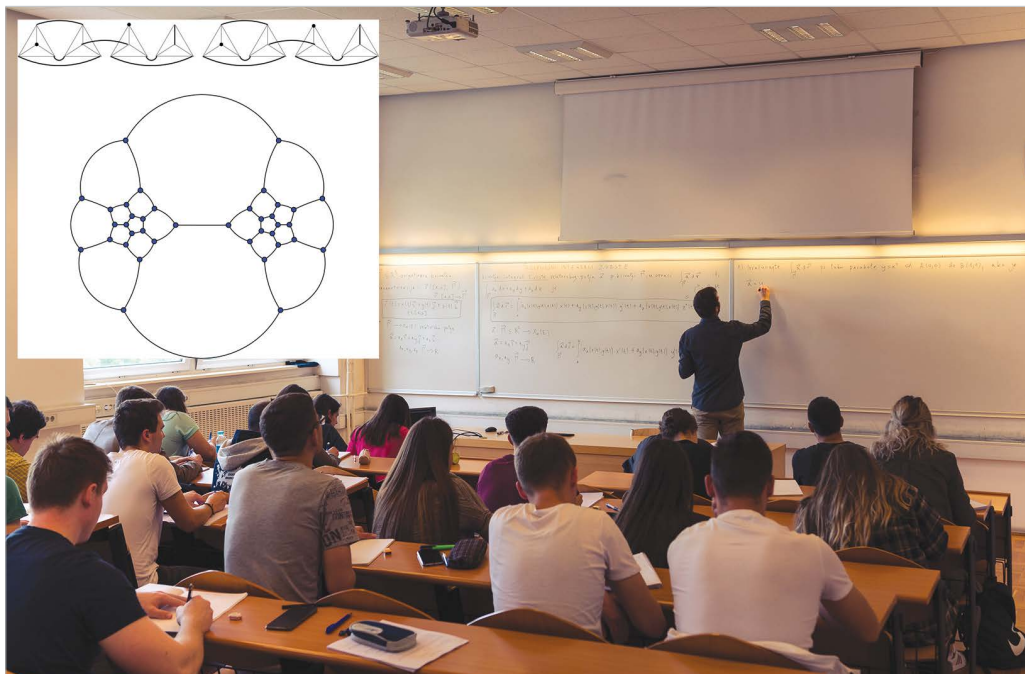
Chair for Mathematics

EDUCATION

- 7 courses for undergraduate students; 6 courses for graduate students; 4 courses for postgraduate students

RESEARCH TOPICS

- discrete mathematics and graph theory
- number theory; Diophantine equations and related problems
- descriptive geometry
- theory of inequalities and its integration in the fields of real, functional and numerical analysis
- applications of probabilistic and statistical methods, and stochastic modelling
- many-body physics; cold quantum gases; light-atom interactions



— We take our students to the limits...

INDEPENDENT CHAIR FOR BUILDINGS

EDUCATION

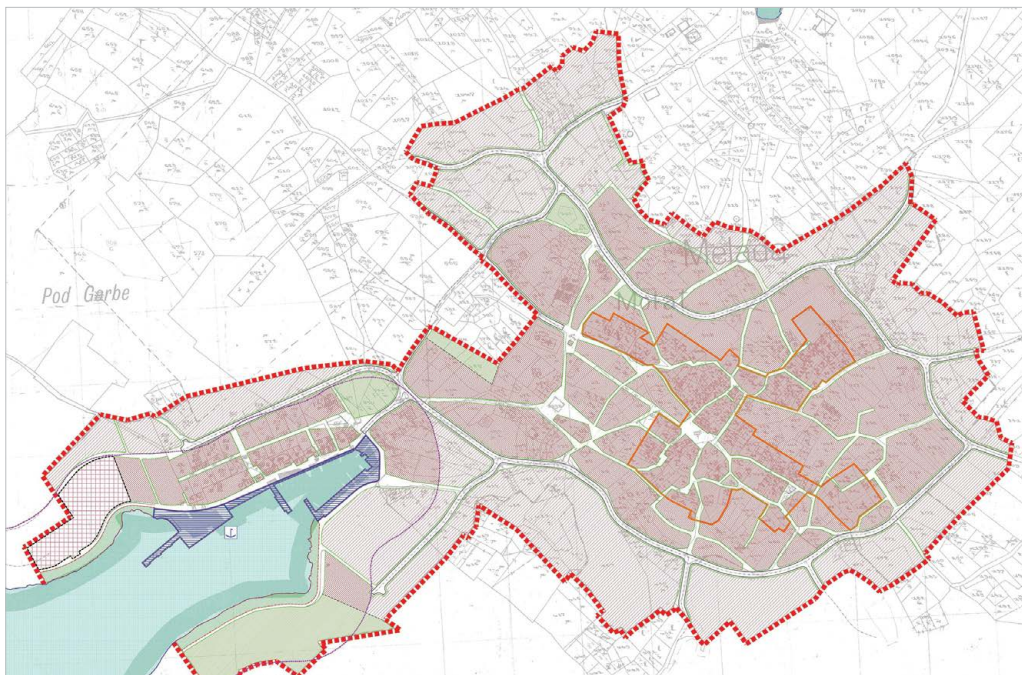
- undergraduate level courses: *Building Construction* and *History of Building*
- graduate level course: *Traffic Buildings*

RESEARCH TOPICS

- architecture: architectural programming, methodological approach in dwelling / public building design
- urbanism: sustainable development, spatial capacities of urban areas
- cooperation in research regarding utilisation of new technologies and materials in buildings

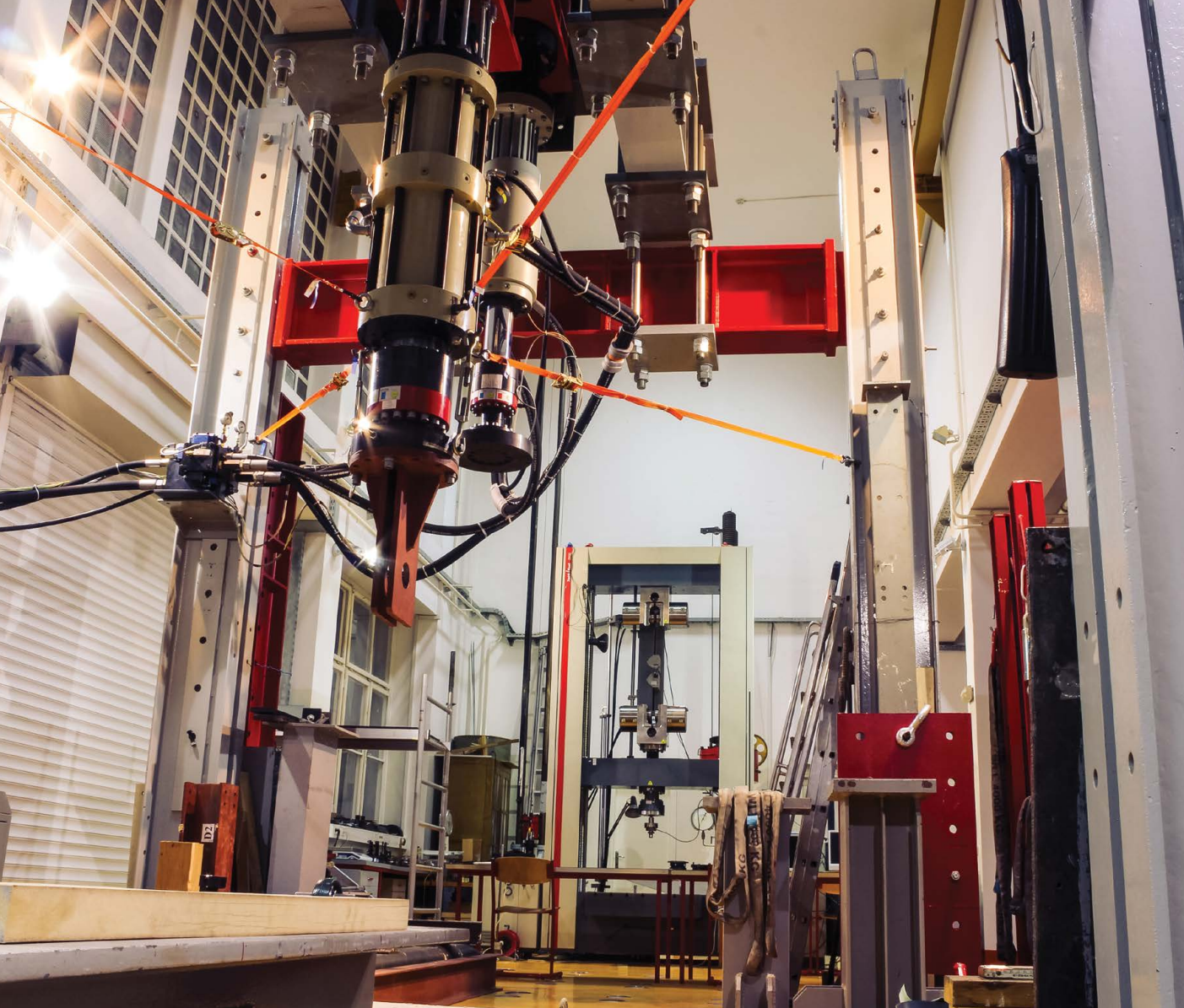
PROFESSIONAL ACTIVITIES:

- architectural design of buildings, public spaces, etc.
- urban planning
- urban and architectural studies
- supervision of building works



Urban planning of the small town Molat

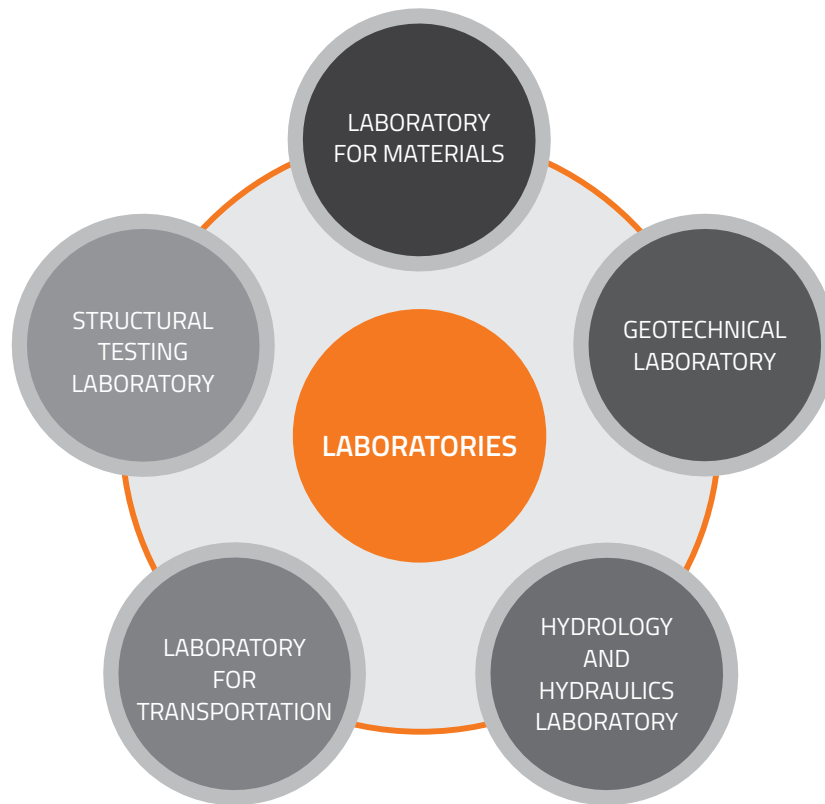
LABORATORIES Geotechnical Laboratory
AND Hydrology and Hydraulics Laboratory
EQUIPMENT Laboratory for Materials
Structural Testing Laboratory
Laboratory for Transportation
Department of Structural Engineering Equipment



View of modern machines for dynamic and static testing

Less than one year after foundation of the Higher Technical School in Zagreb in 1920, the Laboratory within the Materials Testing Department was established as the predecessor of the current Structural Testing Laboratory at the Department of Engineering Mechanics. The founder of the lab and the first head of the Materials Testing Department was a well-known scientist, professor of technical mechanics, PhD. Stjepan Prokofijević Tymoshenko.

Laboratories are used for student education, research and commercial purposes. They are open to students according to the curriculum and laboratory practicum timetables. Students requiring services of the laboratory for their doctoral, master and graduation theses have the right of access upon approval by the laboratory head and their supervisors. Additional access can be agreed upon with the laboratory head and, in such cases, visitors will be accompanied by laboratory staff. Most laboratories have no obstacles or access restrictions for people with disabilities.



- Five laboratories support education, research and professional activities

GEOTECHNICAL LABORATORY

- Laboratory is conducting tests according to a wide range of laboratory and field investigation methods
- Laboratory equipment includes equipment for soil classification (liquid limits, grain size distribution, aerometry), equipment for soil / rock strength characterization (fall cone test, direct shear apparatus, triaxial apparatus, direct shear apparatus for soil – geosynthetic interface strength, rock strength index apparatus, semiautomatic compression apparatus), equipment for soil / rock deformability characterization (six classical oedometers, a hydraulic oedometer, triaxial apparatus, semiautomatic compression apparatus), equipment for testing density of compacted soil with Proctor and other laboratory equipment (determination of carbonate content, ultrasonic pulse velocity tester, slake durability apparatus)
- Geodesy equipment includes total station, digital level, GPS, and two UAVs
- Field geotechnical equipment includes CPT/CPTU/SCPT machine for static penetration and drilling machine for drilling in both soil and rock (including the Standard Penetration Test)
- Geophysical equipment includes Seismic Refraction and Seismic Reflection, MASW, SASW, CSWS and GPR (with 100, 280, 400, and 1000 MHz antennas)
- Equipment for geotechnical monitoring includes inclinometer, deformer, micrometer, clinometers, piezometers
- Equipment for testing geotechnical structural elements includes vibration measurement equipment, PIT testing of pile equipment, and ground anchors pull-out equipment.



— A partial view of the geotechnical laboratory

HYDROLOGY AND HYDRAULICS LABORATORY

- Small glass tube for the Reynolds experiment
- Small pool for demonstrating local erosion of piers submerged into water
- Models: for observing outflow of liquid from small and large openings; for demonstrating local losses in pressure pipe systems; for demonstrating outflow under water control gates and hydraulic jump; demonstration of water seepage under dams; radial flow towards the well; of water hammer; of water masses oscillation
- Wind tunnel for measuring the forces on scaled engineering structures and structures shape resistance
- Wave channel equipped with a wave generator for observing the influence of waves on port and harbour constructions
- Electrocoagulation pilot device (EPD) for advanced water treatment technologies
- Weather Information Logging Device WILD (sensors: rain, temperature, humidity)
- Bridge Information Recording Device BIRD (sensors: water level, scour)
- General purpose flow flume
- Pressurised pipe system



- General purpose flow flume - 15 m long and 1 m wide with a normal water depth of 1 m, equipped with ADV velocimeter and sediment transport facility

LABORATORY FOR MATERIALS

- Hydraulic testing machine with the capacity of 3000kN (compression frame) and 200kN (bending frame), capable of performing force or deformation-controlled loading of samples (compressive strength, modulus of elasticity, flexural tensile strength, splitting tensile strength, toughness)
- Differential calorimeter for measuring heat liberation process in concrete and isothermal calorimeter for cementitious materials
- Chamber for simulation of freezing and thawing ($-32\text{ }^{\circ}\text{C}$ to $45\text{ }^{\circ}\text{C}$)
- System for measuring air void characteristics of hardened concrete
- Salt spray chamber and chamber for exposing materials to temperatures of up to $1400\text{ }^{\circ}\text{C}$
- Multichannel potentiostat device for testing accelerated corrosion behaviour of steel
- Infrared (IR) camera (640x480, temperature span: $-40\text{ }^{\circ}\text{C}$ to $1400\text{ }^{\circ}\text{C}$)
- Blower-door (80 do $7200\text{ m}^3/\text{h}$)
- Acoustic emission monitoring system (8 channel)
- Air jet sieving machine for determination of particle size distribution for fine particles
- Concrete rheometer CTPT for determination of flow properties of fresh concrete
- Instrument for evaluation of in-situ permeability of concrete cover
- Wireless corrosion rate measurement device
- Impact-echo testing instrument for evaluating defects in concrete structures
- Thermal gravimetric analysis (TGA) for microstructural analysis
- Device for determining the condition of the built-in material in the building during inspections
- Mercury intrusion porosimetry (MIP) for analysis of pore structure
- Ground-penetrating handheld radar (GPR) with a centre frequency of 2.7 GHz



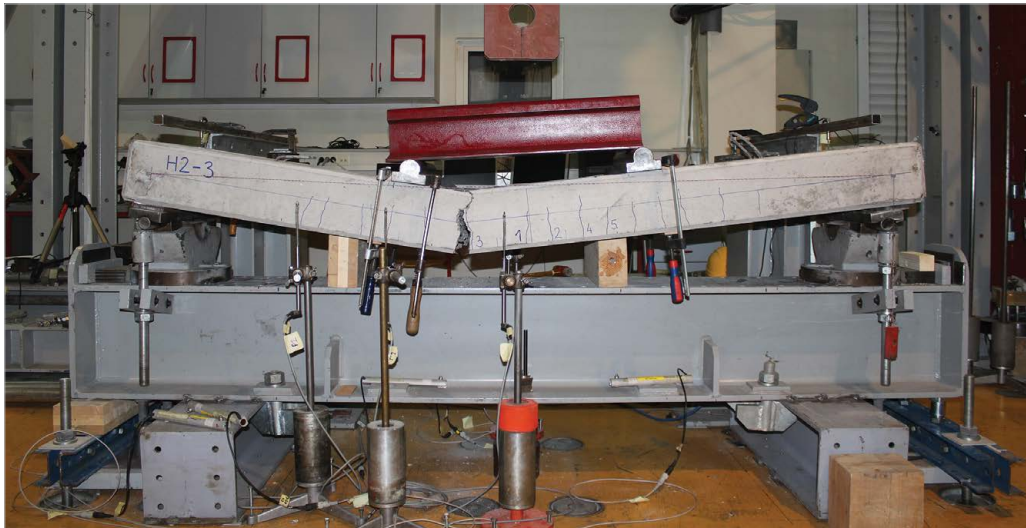
Hydraulic testing machine



Fresh state properties of self-compacting concrete

STRUCTURAL TESTING LABORATORY

- Universal static testing machine, Zwick/Roell Z600E, is a universal tension-compression electro-mechanical testing machine with the capacity of 600 kN
- Multi-test console for dynamic and static testing of structural elements or structure models with 2 hydraulic actuators, with the load capacity of 600 kN and 250 kN (compression or tension), and with the maximum stroke of ± 125 mm
- HBM MGCplus – high resolution DAQ system with more than 60 channels (DC, SG bridges, piezoelectric) which enable measurement of force, displacement, acceleration, strain, temperature, resistance, and current; appropriate for static and dynamic measurements (up to 20 kHz); equipped with CATMAN software
- National instruments - high resolution DAQ system with various modules (DC, SG bridges, piezoelectric) which enable measurement of force, displacement, acceleration, strain, temperature, resistance and current; for static and dynamic measurements; equipped with LabVIEW software
- Bruel&Kjaer3560C - DAQ system with 5 channels, suitable for the analysis and measurement of noise and vibration; the platform allows determination of modal shapes and natural frequencies by applying the Operational (OMA) and Experimental (EMA) modal analysis
- Electronic sensors and converters for measuring displacement, strain, force, acceleration, temperature, humidity, pressure, etc
- GOM ARAMIS optical measurement system for static and dynamic 3D measurement of coordinates, displacements and strain, suitable for the analysis of specimens of few centimeters up to several meters



Four-point bending test of Recycled Steel Fibre Reinforced Concrete beam

LABORATORY FOR TRANSPORTATION

- Universal Testing Machine for tensile and static puncture (CBR) tests of various geosynthetic materials (width of hydraulic grips: 250 mm; large grips $F_{max} = 100$ kN, small grips $F_{max} = 5$ kN; accuracy: 0.02 mm)
- GPR System with 1.0 and 2.0 GHz Horn Antennas used for pavement thickness measurement
- Transmissivity Equipment for transmissivity tests of geosynthetic drainage materials
- CEN/ISO Permittivity Equipment for permittivity tests of geotextile
- Dynamic Puncture Tester used to evaluate resistance of geosynthetics to damage during installation
- ATLAS SC600 Solar Simulator used to evaluate weathering resistance of geosynthetics (UV)
- Vibratory Sieve Shaker AS200 Control used for determination of geotextile apparent opening size (measuring range: 20 μ m to 25 mm; amplitude: 0.2 to 3 mm)
- Analytical Balance AG204 used for determination of sample weight (accuracy: 0.1 mg)
- Halogen Moisture Analyser HR83 used for determination of moisture content
- Geosynthetic Thickness Devices used for determining thickness of geosynthetic materials (accuracy: 1 μ m)

Field measuring equipment includes:

- devices for measurements of railway track geometrical parameters: digital device Graw TET 1000 for railways with track gauge of 1000 mm; digital devices Graw DTG 1000 and Graw DTG 1435
- device for measurements of longitudinal rail geometry and the quality of rail welds (digital measuring device Railprof 1000)
- devices for measurements of rail gauge and wheel gauge profiles: digital profilometer Graw AB for measuring the profiles of wheels of railway vehicles; digital profilometer Graw XY for measuring the profiles of rails, switches and crossings
- hand-held analyzers and sound level meters for noise measurements
- multipurpose devices: thermographic cameras and drones



— Universal Testing Machine for testing of various geosynthetic materials



— GPR System used for pavement thickness measurement and road condition assessment



— Digital device for measurements of railway track geometrical parameters

DEPARTMENT OF STRUCTURAL ENGINEERING EQUIPMENT

- mobile hardness tester that operates according to the UCI method (Ultrasonic Contact Impedance);
- ultrasonic thickness gauge designed for general thickness measurements on a variety of equipment, having access to one side only
- coating thickness gauge with a full range of probe options for ferrous (F), non-ferrous (N) and dual ferrous/non-ferrous (FNF) operation
- fully portable adhesion tester
- flat jack system
- ultrasonic device with serial printer
- hygrometer with insulated electrodes for wood
- sclerometer, device for the determination of compressive strength
- cover meter and device for half-cell potential determination
- ultrasonic pulse velocity system for finding voids and cracks, and determining other material properties;
- device for measuring of electrical resistance of concrete
- microscope for determining cracks width
- multifunction measuring device with climate sensor and surface temperature sensor for moisture of wood and dew point; hand electrode for wood moisture measurements; pyrometer; climate data loggers;
- mini-videoscope
- u-value promo set; thermohygrometer set; resistograph with additional equipment and software;
- lightweight ultrasonic device with additional equipment and software
- drone with additional tablet; drone with infrared thermal and digital camera; including all accessories, additional equipment and processing software
- the live - lab is a single-storey mock-up timber building equipped with air conditioner, mechanical fan, solar panel pack and weather station with data logger and live monitoring system followed on SITEL Cloud.



— PROFOMETER 630 AI



— Mobile hardness tester
Krautkramer MIC 10



— LIVE -LAB with equipment



Potvrda o akreditaciji

Accreditation Certificate

Ovime se utvrđuje da je
This is to recognize that

Sveučilište u Zagrebu
Građevinski fakultet
Laboratorij za materijale
Laboratorij za ispitivanje konstrukcija
Fra Andrije Kačića Miošića 26, HR-10000 Zagreb

osposobljen prema zahtjevima norme
is competent according to
HRN EN ISO/IEC 17025:2017
(ISO/IEC 17025:2017;
EN ISO/IEC 17025:2017)
za/to carry out

Ispitivanje građevnih proizvoda
Testing of construction products

u području opisanom u prilogu koji je sastavni dio ove potvrde o akreditaciji.
for the scope described in the annex which is the constituent part of this accreditation certificate.

Br./No.: 1243
Klasa/Ref.No.: 383-02/19-30/042
Urbroj/Id.No.: 569-02/12-20-37
Zagreb, 2020-12-18

Akreditacija istječe-Accreditation expiry: 2025-12-17
Prva akreditacija-Initial accreditation: 2010-04-23

HAA je potpisnica multilateralnog sporazuma s Europskom organizacijom za akreditaciju (EA)
HAA is a signatory of the European co-operation for Accreditation (EA) Multilateral Agreement

v. d. ravnateljica:
Acting Director General:
Ankica Barišić, dipl. ing.



HAA

Hrvatska akreditacijska agencija
Croatian Accreditation Agency

First Croatian cable-stayed bridge at the entrance of Dubrovnik



Professional Activities & Consultancy

Faculty members offer professional expertise and counselling with regard to various problems in the design, execution, maintenance, strengthening, and repair of structures commissioned by the civil engineering industry. Main industry partners are Croatian Railways, Croatian Waters, Croatian Roads, Croatian Highways, City of Zagreb.

DESIGN, STUDIES AND STATE REQUIRED PROOF REVIEWS

- development and review of preliminary, main and detailed designs of various structures
- residential buildings, administrative buildings, industrial facilities, educational buildings, sports halls, garages, bus stations
- beam, frame, cable-stayed, suspension and movable bridges and, in particular, arch bridges of very long spans
- roads, urban roads, road intersections, railways and tram tracks
- agriculture drainage and irrigation systems, small hydro power-plants, river and sea ports, quays and marinas
- inland waterways, flood protection systems, water and wastewater treatment plants
- tensegrity structures, lightweight large span roof structures, airport building roofs
- chimney reconstruction at thermal power plants and circularly prestressed liquefied natural gas storage tanks
-

ASSESSMENT, MONITORING AND RETROFIT

- condition assessment for various structures
- reinforcement corrosion monitoring
- long-term monitoring systems on historic buildings, bridges and roof structures
- measurements of vibration of bridges, high industrial chimneys, high towers, large area caused by wind activity
- design of various types of damping devices
- historical constructions and appropriate restoration materials and techniques
- rehabilitation of earthquake- or war-damaged buildings and bridges
- environmental impact assessment
- ...

EXPERT COMMITTEES AND BODIES

- activities in the field of standard control (national and international level)
- active participation in the implementation of the new generation of Eurocodes
- ...

INSPECTION, MEASUREMENTS AND TESTING

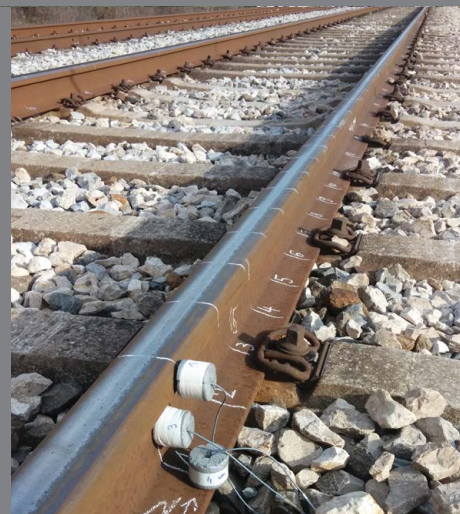
- laboratory testing of different basic and composite materials, soil, geosynthetic materials
- thermal calculation and testing
- on site visual inspection, non-destructive and destructive methods
- measuring vibration of road vehicles, trams and trains
- detailed and engineering post-earthquake building inspections
- ...

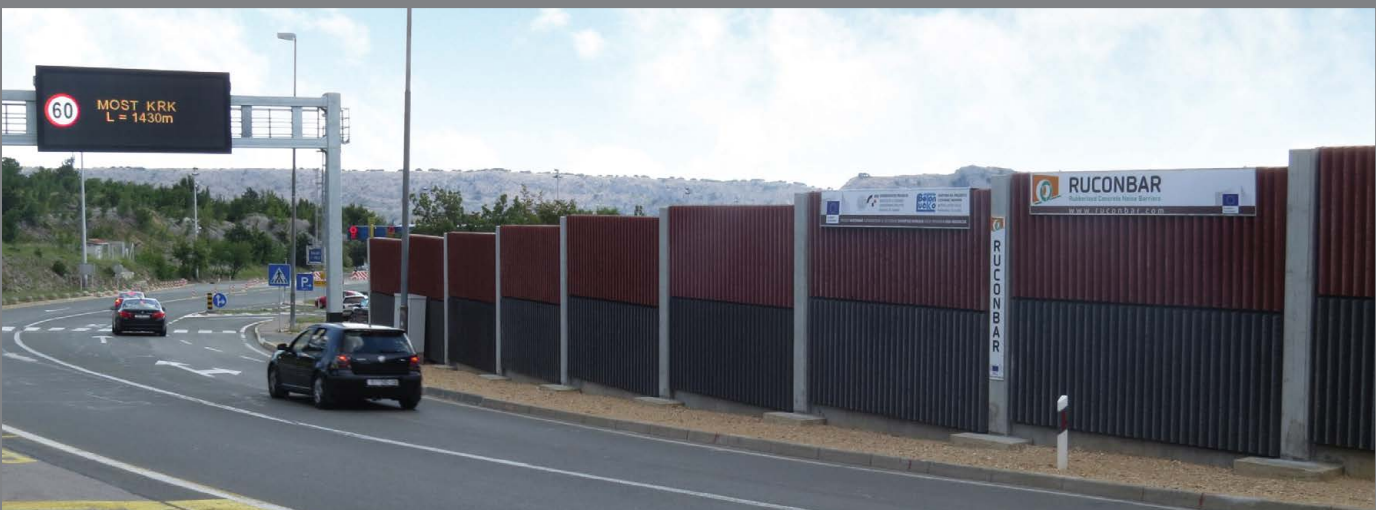
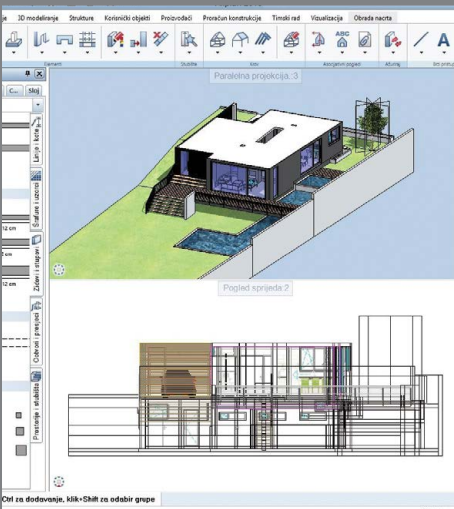
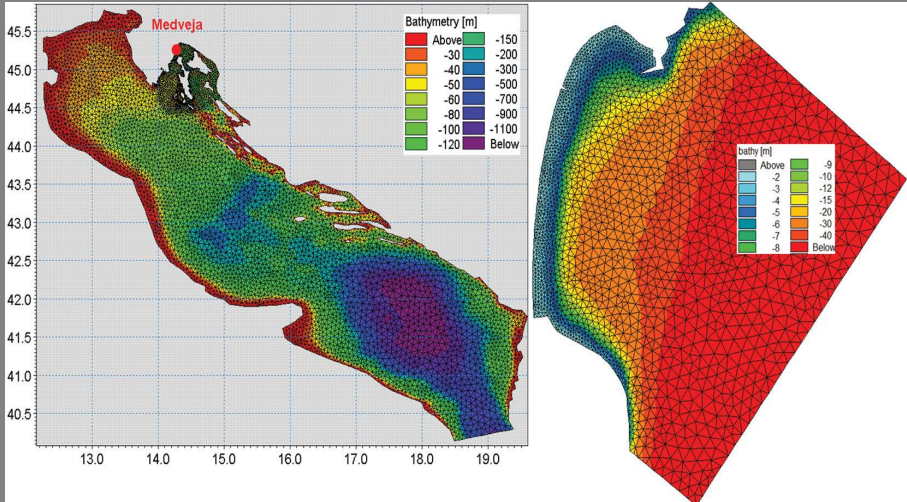
CONSTRUCTION MANAGEMENT

- Building Information Modelling
- Building technology studies
- Court expertise and arbitration
- Facility Management and Maintenance Services
- ICT systems for construction management
- Project and Construction Management Services
- Project engineering studies
- Project Management Studies
- Project Management trainings - IPMA certification
- Risk management



■ SHM system and operational modal analysis of St. Jacobs Cathedral in Šibenik





International Project Management Association (IPMA) <https://www.ipma.world/>
International Association for Bridge and Structural Engineering (IABSE) <http://www.iabse.org> European Convention for Constructional Steelwork (ECCS) <https://www.steelconstruct.com/> European Committee for Standardization <https://standards.cen.eu/> International Association for Experimental Structural Engineering (IAESE) <http://www.iaese.com/> European Construction Technology Platform <http://www.ectp.org/> International Association for Bridge Maintenance and Safety (IABMAS) <http://www.iabmas.org/> Croatian Standards Institute www.hzn.hr International Geothermal Centre <http://www.geothermie-zentrum.de/en.html> Croatian Academy of Engineering (HATZ) <https://www.hatz.hr/en/> International Association of Hydraulic Engineering and Research (IAHR) <https://www.iahr.org/> European asphalt pavement association (EAPA) <https://eapa.org/> International Association of Hydrological Sciences (IAHS) <https://iahs.info/> Croatian Society of Non-Destructive Testing <http://www.hdkbr.hr/en/>

Professional Associations

Croatian Society for Geometry and Graphics <http://master.grad.hr/hdgg/index-en.html>
Croatian Association for Construction Management <https://www.huog.hr> Croatian Association for Project Management <http://capm.hr> Croatian Association of Civil Engineers (HSGI) <http://hsgi.org/hr/index.asp> Croatian Chamber of Civil Engineers (HKIG) <http://www.hkig.hr/> Thematic Innovation Councils of the Ministry of Economy: Entrepreneurship and Crafts, Traffic and Mobility, Energy and Sustainable Environment
International Geosynthetic Society (IGS) <https://www.geosyntheticssociety.org/>
Association mondiale de la route/ World Road Association (PIARC) <https://www.piarc.org/en/> American Society of Civil Engineers (ASCE) <https://www.asce.org/> Institute of Electronical and Electronics Engineers (IEEE) <https://www.ieee.org/> International Society for Asphalt Pavements (ISAP) <http://asphalt.org/> The International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM) <https://www.rilem.net/> Forum of European National Highway Research Laboratories (FEHRL) <http://www.fehrl.org/> ...

Lifelong Learning

Continuing professional education, based on a long-standing tradition, is organised and operated after formal education. The program provides continuous education in the civil engineering profession, and involves compliance with and delivery of internationally recognized certificates, and further strengthening of competences and expertise. Through professional education, Faculty acquires better visibility and recognition, which results in successful cooperation with the industry on engineering and scientific projects. The implementation of educational activities, workshops, training sessions and various events, is characterized by high quality transfer of knowledge, experience and modern techniques, including provision of practical solutions by eminent professors and lecturers in line with new technologies and innovations in the field of training and education.

Further development and maintenance of professional education programs is planned in three directions:

- upgrading of existing well recognized professional training seminars (Transportation Days, Sanitary Hydrotechnics Days, BIM Summer School etc.)
- diploma seminars during which attendants are trained to carry out some professional activities (Project Managers, Infrared Thermography Experts (Level 1 i Level 2) etc.)
- seminars with highly specialized topics, validated by the Ministry of Construction and Physical Planning.

Continuous improvement in:

- using advanced technological solutions
- cooperation with foreign lecturers
- cooperation with industry
- implementation of highly specialized events.



▪ Days of Sanitary Engineering: Education: introducing the functionality and operation of each segment of water supply system

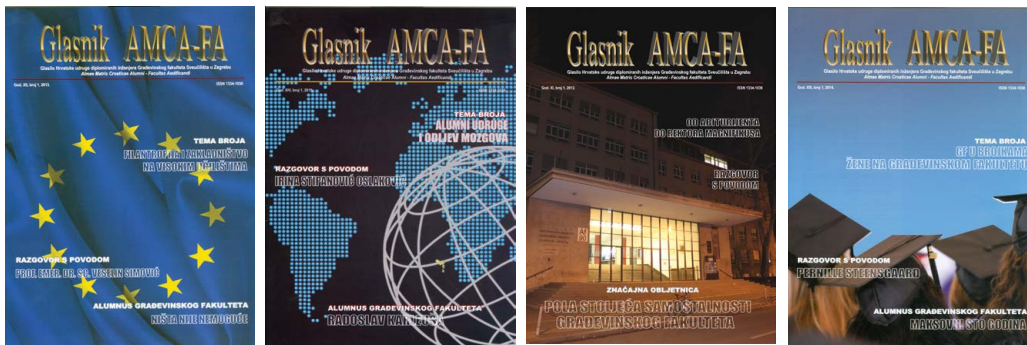


▪ Workshop on Condition Assessment, Repair and Strengthening of Concrete Structures organised with Croatian and foreign lecturers

Alumni Relations

The AMCA-FA Association brings together the alumni of the Faculty of Civil Engineering and maintains contacts with them after graduation. The alumni gather together in the scope of various activities and events that are announced through the AMCA-FA's website, journal, and newsletter. Lectures, workshops, courses, excursions, and jubilee gatherings are regularly organised for the alumni. The AMCA-FA Association has been monitoring recruitment of young engineers over the past several years. Statistics show that many of them gain employment within three months after graduation. In fact, as many as 85% of these young graduates find employment six months after graduation. Very few students decide to work abroad immediately after the graduation.

The alumni of the Faculty of Civil Engineering are held in high esteem not only in Croatia but also throughout the world, and have therefore no difficulty in obtaining job positions in large and well-known international companies. Some of them pursue their academic careers at different universities around the world.



AMCA-FA journal promotes alumni relations



Excursion to new-terminal construction site at Franjo Tuđman Airport organized by AMCA-FA



Annual career day is organised to present major construction-industry employers

Student Recruitment & Successes

The Faculty of Civil Engineering has been actively helping students in their future career development. The Faculty therefore organizes the annual career day, when major employers in the construction industry have the chance to present their business case, showcase their major achievements and call students to apply for either scholarships or job position. At the annual event organised in 2019 more than 20 companies presented their career opportunities to the graduates. The Faculty will continue to nurture the close relationship with the economy in order to provide students with a softer landing into the professional world.

Students are highly active outside the traditional curriculum:

- participating in the implementation of numerous European projects related to sustainable construction (Fit-to-NZEB, BIMzeED, CPD4GB - Development of professional competencies for green building, etc.)
- winning awards at many University sports competitions
- conquering knowledge competitions in Turkey and Estonia dedicated to steel bridges
- editing Student Association Journal dealing with different aspects of civil engineering from the learners' and teachers' perspective
- conquering knowledge competitions in Bulgaria dedicated to transportation infrastructure



Student Association Journal InfoGrad



Volleyball team won the 2nd place at the Zagreb University League 2016/2017 and the 1st place at the Civil Engineering Faculties League in Bulgaria 2018



Knowledge competitions on the design and assembly of steel bridges show the importance of proper organisation and teamwork gained through the study

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